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ABSTRACT

Papers and summaries of discussions from the 1979 forum of the National Center for Higher Education Management Systems are presented. Contents are organized into three sections: (1) the links between long-range planning and short-range budgeting, (2) the relationship of program review and evaluation to academic planning and budgeting, and (3) improvement of communication and participation in the planning and budgeting process. The following papers are presented: "Developing an Integrated Planning and Budgeting System," by John A. Bers; "Linking Academic Planning and Budgeting," by Durward Long; "Enhancing Planning and Budgeting Decisions through a Modified Zero-Based-Budgeting Approach," by Gary M. Munsinger; "The Role of Program Review in Academic and Fiscal Planning," by Robert C. Shirley and J. Fredericks Volkwein; "Management Information Systems: The Human Factor," by Kevin M. Diran; and "Political Behavior in Higher Education Budgeting," by Joan C. Tonn. (SW)

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Integrating Academic Planning and Budgeting in a Rapidly Changing Environment: Process and Technical Issues

Edited by
Sidney S. Micek

1980

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Preface

In 1976, the National Center for Higher Education Management Systems (NCHEMS) conducted a research-agenda conference for the National Institute of Education. Then in 1978, in keeping with its policy of assessing constituent needs to guide program priorities, NCHEMS sponsored an advisory planning conference at which high-level administrators of colleges and universities, state higher-education agencies, and national organizations were represented. From these two conferences, as well as from informal discussions and staff observation, integration of academic planning and budgeting emerged as a priority concern to administrators of higher education. To address this concern, NCHEMS sponsored in spring 1979 a forum that brought together a group of top administrators, similar to the group represented at the advisory planning conference, to discuss key issues of the problem.

Integrating Academic Planning and Budgeting in a Rapidly Changing Environment: Process and Technical Issues summarizes the forum discussions and presents papers that deal in greater depth with various issues. The book does not set forth conclusions about how to accomplish integration of academic planning and budgeting. Rather, it seeks to convey to top-level executives, planners, directors of institutional research, budget officers, and deans and department heads of colleges and universities the thoughts and experiences of those who are attempting such integration in their own settings.

1

Introduction

As we know all too well, colleges and universities today confront a dilemma. On the one hand, they are buffeted by inflation, unstable enrollments, and public criticism of rising tuitions and growing class sizes. On the other, they are asked to meet changing manpower demands, aid the underprivileged, provide opportunities for leisure and culture, and improve educational quality. This conflict has produced uncertainties and tensions among administrators and faculty regarding responsibilities for program planning and resource allocation among and within programs, future costs and revenues, and improved productivity. In short, the situation all too often leads to internal confrontations that undermine attempts to improve academic planning and budgeting.

Most of the literature on planning and budgeting assumes a rather straightforward, rational process of decisionmaking: careful preparation for future decisions through planning, a rational choice among alternatives, and implementation of decisions through budget allocations consistent with the alternatives chosen. In reality, however, the link between academic planning and budgeting is seldom so rational or methodical. Academic program planning is usually a faculty function (or at least involves significant faculty participation) carried out with little analysis of the implied resource requirements. Budgets, in contrast, are devised by administrators, often with inadequate analysis of academic-program plans and constrained by restricted revenues. As a result, year-to-year budget allocations are frequently incremental and unrelated to long-range plans, leading to inefficiency and confusion about priorities at all levels within the institution.

Given the rapidly changing and complex environment for higher-education institutions, greater attention to integration of academic planning and budgeting is called for. How can institutions achieve this? What processes and techniques would be useful in reaching this goal? What is the relationship of program review and evaluation activities to academic planning and budgeting decisions? How can communication and participation in planning and budgeting at different levels within the institution be improved to enhance the integration of academic planning and budgeting?

To help answer such questions, the National Center for Higher Education Management Systems sponsored a forum on "Integrating Academic Planning and Budgeting in a Rapidly Changing Environment: Process and Technical Issues." The forum was held in Denver, Colorado, on March 5 and 6, 1979. Persons who attended the forum included top-level administrators from public and private two-year colleges and four-year colleges and universities, administrators from higher-education state agencies, and members of the NCHEMS staff. (The forum participants are listed in the appendix.)

To identify important issues and problems that should be addressed, each participant was interviewed prior to the forum. The following issues and problems emerged in these interviews.

A. Overall questions and issues
   1. What do we mean by the terms that we use: What is planning; what is academic planning vis-a-vis nonacademic planning; what is budgeting?
   2. To what extent should academic planning and budgeting be integrated? Is integration more desirable at the campus than at the state or system level? How do we recognize different perspectives of the system-level administrator, institutionwide administrator, department-level administrator, in our thinking about integrating academic planning and budgeting?
   3. How do we take into consideration the organizational design and the philosophy of institutional management in integrating planning and budgeting?
   4. What institutional policies are needed for effective integration of academic planning and budgeting?
   5. Are college administrators more committed to maintaining the internal political status quo and keeping their options open than to integrating academic planning and budgeting?
   6. How do we ensure flexibility in institutional planning and budgeting to allow for unexpected opportunities and serendipity?

B. Questions and issues relating to the linkage between long-range planning and the annual budget request-expenditure process
   1. Is long-range planning feasible given the rapidly changing environment of postsecondary education?
   2. Is long-range planning possible in the public sector where annual appropriations and periodic changes in political leadership prevail?
   3. How do you incorporate client needs into the long-range planning and annual budget process?

4. How can a three-to-five-year plan be continually *updated* and *timed* to reliably influence the annual planning-budgeting cycle?
5. To what extent does the breakdown of collegial relationships between faculty and administrators, due to such things as collective bargaining and retrenchment decisions, hinder the integration of academic planning and budgeting?
6. To what extent is it desirable and feasible to have the same person in the institution responsible for both academic planning and budgeting?
7. How can an institution deal with day-to-day crises and still follow its long-range plan, when most constituent groups want an immediate response to their needs?

C. To be effective, internal program and evaluation results must be tied to the budget process; questions relating to the relationship of program review and evaluation to academic planning and budgeting include:

1. What is the best model for internal program review and evaluation?
2. What is the best way to collect and use program review and evaluation results in academic planning and budgeting?
3. How do we deal with the duplication of program review and evaluation activities—program review and evaluation for internal planning, for institutional self-study related to accreditation, and for state-level performance audits?
4. What is the relationship of cost-effectiveness analyses of programs and program review and evaluation efforts?
5. Who should be responsible for program review and evaluation?

D. Questions and issues relating to improving communications and participation in planning and budgeting at different levels within the institution

1. How do you solicit meaningful faculty involvement in academic planning and budgeting?
2. Is participation of faculty important?
3. How do the provinces of faculty decisions translate into budget decisions?
4. Is the role of the college dean to be (a) head of faculty groups, (b) institutionwide administrator, or (c) both a and b?
5. What is the role of various kinds of information in enhancing communication?
6. How do you impart information on planning and budgeting decisions to faculty so they can use it to more effectively participate in these processes? How detailed should such information be?
7. How do we elicit commitment at all levels of the institution to the planning and budgeting process?

   8. What causes confrontation and internal disagreement—economic factors alone or rather incomplete understanding, parochialism, and poor leadership?

E. Other questions and issues
   1. Should academic concerns be the basis for all other concerns of the institution?
   2. How should institutions juggle academic and nonacademic concerns, especially with growing pressures for institutions to respond to community and societal problems?
   3. How do you balance rational approaches to planning and budgeting (PPBS, ZBB) and the politics of decisionmaking?

This monograph summarizes what was learned about these specific questions and issues at the forum. It is organized into three sections: (1) the links between long-range planning and short-range budgeting, (2) the relationship of program review and evaluation to academic planning and budgeting, and (3) improvement of communication and participation in the planning and budgeting process. Each section begins with a summary of forum discussions on the topic. Following each summary are papers contributed by college administrators who are dealing directly with the problems of integrating academic planning and budgeting.

1

Links between Long-Range Planning and Short-Range Budgeting

Summary of Forum Discussions

Roger Bassett
Senior Associate
NCHEMS[1]

This section summarizes forum discussions of linkages between the planning and budgeting processes in institutions of higher education. In considering the major observations and conclusions of the participants, it is important to understand that the group participating in the forum predominantly represented academic planners. Moreover, the topic was introduced in a way that encouraged discussion of the environmental and behavioral aspects of the planning process rather than specific techniques and planning results.

Consideration of the link between long-range planning and budgeting is less a matter of examining two formalized, well-developed, distinct processes than of recognizing that many complex and dynamic relationships connect the two. Long-range planning should describe the broader planning environment. Planning, then, is management's ability or process for sensing the environment; exercising some control over those events that offer both opportunities and constraints for the organization; establishing processes to enhance this planning-sensing ability; and identifying and choosing among available choices of action. This role of planning is different than that represented by traditional long-range planning: a set of future promises that are time-definite, forecast-dependent, and backed by action plans in which the hopes of institutional faculty and staff are invested.

Budgeting also has its traditional focus. In the past, budgeting decisions have been based almost entirely on the quantity of students to be served. This straightforward approach was easy and effective during the growth period in higher education. It is less effective as we enter a period of stable or declining enrollments, more limited revenues, heightened public scrutiny, and increasingly difficult intra- and interinstitutional trade-offs.

Part of the reason for the changing role of planning is a decline in the usefulness of traditional long-range planning. Increasing involvement by

[1] Bassett is now Executive Secretary of the Oregon Community College Association

legislatures and state review agencies, each representing an intensified interest by the public in institutional direction and decisions, renders accomplishment of the objectives of a published plan difficult. Still, maintaining a vision of what the institution will be doing 5 to 10 years in the future (an important element of traditional long-range planning) must be retained in the institutional management process. This strategic view of options and preferences is and must remain an important guide to the day-to-day decisions of institutional leadership and staff.

There are three major dimensions to this view of the linkages between planning and budgeting.

1. The need to understand better the planning process itself, within which higher education must make its decisions in the next several years
2. The need to understand better the planning process itself, particularly those elements related to the need for institutional leadership to sense alternative opportunities and possible constraints, and to choose the best course of action among them
3. The need to understand better the relationship between planning as an organized activity and the broader organization that it is intended to serve

Understanding the Planning Environment

The forum discussions of the planning environment centered on the importance of maintaining a capacity to respond to a rapidly changing environment —in particular, to respond to a crisis situation. Crisis is a reality in any planning process, and planning statements can become outdated quickly when a major unanticipated shift in the planning environment occurs. The unpredictable timing, nature, and impact of a crisis, whether momentary or prolonged, are often used as an argument for doing without a planning process altogether. Ad hoc decisions can work, particularly when exercised by organizational leadership having the skills to successfully operate in a political environment. Most organizations, however, can ill afford to risk long-range stability on the chance of the continued success of one individual in a particular political climate.

Planning responses to a crisis situation vary. The development of a set of *contingency plans*, each anticipating a feature of the changing planning environment, is one possibility. The advantage of contingency planning is the discipline it introduces into the organizational response to a crisis. Rather than having to assess the situation and develop a planned response on the spot, the planning team can move to a predetermined alternative plan. The disadvantage of contingency planning is that rarely has the planning process adequately anticipated the nature of a contingency. It takes a sophisticated set of analytical skills or an unusually stable environment to deliver a contingency plan that responds to a particular crisis.

A second possible response is maintenance of an *organizational readiness to plan*. Conceptually this is a better option than the development of a contingency plan. Organizationally it means establishing clear internal responsibility for responding to a crisis, with a participatory structure and process set in advance. The advantage of this approach is the readiness posture it establishes throughout the organization—even beyond the specific planning process. Unambiguous assignment of responsibility for planning and a clear description of a participatory process are management concepts having their own merit. The disadvantage of this approach is the difficulty of putting it into operation. Few organizations are able to make a commitment to planning (or to any other organizationwide process) such that it remains in place when it is not being used and yet can be effective the moment it is needed.

A third possibility is maintenance of an *organizational venture fund*. A reserve allows the organization to respond with new resources rather than to go through a difficult and time-consuming reallocation process. The disadvantage is the difficulty of shielding any available uncommitted source of funds from pressures for funding day-to-day needs.

A fourth possibility is the development of *organizational plans with options* in those areas most subject to changes in the planning environment. Such a plan, particularly when accompanied by the flexibility to invoke appropriate options on short notice, seems to be the most desired alternative. It differs from contingency planning in the sense that only those elements particularly vulnerable to change are planned in advance. It does retain some of the disadvantages of contingency planning, particularly the difficulty of adequately anticipating every possible feature of the future planning environment. One example of planning with options is the incorporation of planning increments and decrements into the basic academic-planning process. In one example discussed during the forum, an institution bases its entire planning effort on decision packages produced by the deans of the various colleges. Plans developed by the deans are essentially a derivation of zero-based budgeting, wherein activities for which the dean is responsible are prioritized. The process intentionally avoids constraining the decision packages with revenue forecasts, the argument being that such a constraint would close out some possibilities that institutions should consider or for which planning options should be maintained.

Regardless of how a given organization chooses to respond to crisis, some basic planning process must remain in place if the organization is to adequately anticipate major events in the planning environment to which it is expected to respond.

Better Understanding of the Planning Process

The linkage between academic planning and organizational budgeting can be affected by other organizational processes and environmental concerns. Collective bargaining is one example of an organizational process with influence on the planning and budgeting link. Population and economic shifts leading to programmatic retrenchment are examples of environmental impacts. To be effective, the planning process must attempt to identify all such impacts and how each can differentially influence the needs of the organization as a whole and of its particular units. The key issue to success is who is responsible for the planning process—who sorts out these impacts and how? Budgeting is traditionally bureaucratic, while academic planning has more collegial roots. A significant task in sorting out the relationships between the two lies in understanding this distinction and how and where the two can best come together within the organization. As we leave a growth period and enter a period of stable and declining enrollments, the demand for rational academic planning can be expected to increase in relation to pure resource allocation. The two processes have very different behavioral characteristics, and the answer to developing a successful link depends at least in part on an ability to observe, understand, and influence organizational behavior.

In developing a particular planning process, several trade-offs are important. First, a planning process can be either deliberative or ad hoc. As mentioned earlier, the major distinction between the two lies in the management style of institutional leadership and the management history of the organization. The more stable the planning environment, the higher the opportunity for risk-taking in institutional planning. Such an environment and situation favor an ad hoc approach to institutional management. A more deliberative approach lends stability internally to the organization, even in an unstable planning environment, and is the preference of most organizational leaders and students of planning.

Second, selecting a planning process that initiates responses is generally preferred to a process that is reactive. The difficulty of taking initiative in planning is anticipating enough of the planning environment for the plan to be relevant. The difficulty of a reactive approach is the likelihood of being caught without a response—a situation considered unforgivable by most outside agencies and interest groups.

A third consideration is the relative importance of strategic planning, that is, sensing the total planning environment in directing the organization versus engaging in more traditional, document-oriented long-range planning. This consideration is often expressed as a distinction between process and product orientations to planning.

Fourth, it is important to consider the relative significance of politics versus rational analysis in a planning environment. The more the plan is intended to serve an external audience, the more attention must be given to a political model of planning. Purely internal organizational planning can more often rely on a rational process model.

Finally, the degree of openness that will be encouraged in the planning process should be considered. This is the participatory dimension of planning often characterized as the distinction between open sharing of planning options versus a closed, cards-down approach. Open sharing is both more complex and more risky in terms of achieving consensus within the organization. An invitation to widespread participation implies a willingness to live with consensus decisions. Failure to accept the resulting decisions can lead to dissatisfaction and even dissension within the organization regarding organizational direction and institutional leadership. Attempts to establish openness in internal planning are made difficult by the traditionally closed, cards-down approach of most legislative deliberations, often the destination of agency-developed plans.

On balance, planning and evaluative activities within the organization must be continuing processes rather than now-and-then activities. Long-range plans need frequent evaluation and revision. Too often, the planning process is criticized because its results are out of date—a fact rather than a weakness of the process. It is quite likely that problems related to underachievement of expected planning results are more related to the process for setting timetables and measurable objectives than they are to the predictive skills of the planners.

Better Understanding the Organization of Which Planning Is a Part

Two processes operate within a higher-education organization. Academic organizations have a tradition of collegial processes. Organized around individual colleges within the larger organization or institution, decisions are based upon consensus and exchange of knowledge and wisdom among all who participate in achieving the goals of the organization. The budgetary dimension in organizational management, however, has developed along more bureaucratic lines. Driven by governmental emphasis on program budgeting and on satisfying quantities of student demand rather than particular program needs, the bureaucratic process has become dominant for many institutions. However, as we leave the period of rapid growth in higher education and enter one of stable or even declining enrollments, program considerations again become important internally and to various external audiences as well. So the pressure now is for increased use of academic-planning considerations in the institutional budget request and allocation processes. Though separation of academic planning from budgeting creates the possibility of better visibility for academic planning, that possibility has not been realized, largely because the separation also reduces the amount of fiscal reality involved in academic planning.

There are some advantages to an integrated process of planning and budgeting besides the prospect of increased fiscal realism. One is the opportunity for better control of the process, including a more thorough exploration of the relationships among long- and short-range considerations and global and local planning linkages. Better information about local initiatives and the planning environment in general is also fostered. And, finally, better continuity can be achieved when both processes are coordinated in the same place in the organization.

But an effective planning system, particularly if complex, can itself promote a bureaucratic environment that may lead to rigidity and redundancy in planning. If a planning system is to alleviate such hierarchical problems, it must be clearly understood by everyone and have the commitment of agency leadership. Maintaining the distinction between decision responsibilities and planning-support responsibilities seems to be the key to this process. If the same person is responsible for developing the planning process and for making line-program decisions, decision responsibility may override and break the planning process—particularly its participatory dimension.

Developing an Integrated Planning and Budgeting System

John A. Bers
Director of Planning and Research
Gadsden State Junior College[1]

As one of the so-called developing institutions eligible for funds under Title III of the Higher Education Act, Gadsden State Junior College was awarded a five-year grant in June 1974 to support, among other activities, the development of an integrated planning and budgeting system. This chapter discusses the factors contributing to the need for integrated planning and budgeting, the development of the system, its impact on the institution, and some of the lessons that were learned from the experience.

The Institutional Context

Established in 1965 as one of 19 institutions in the Alabama Junior College System, Gadsden State grew rapidly in its first decade from 750 in its first year to a peak full-time-equivalent (FTE) enrollment of 4,570 in the spring quarter of 1975, the first year of the institutional-development grant. Each operating budget submitted by the College had been approved by the State Board of Education without amendment, resources had been applied where they were needed despite the pressures imposed by mushrooming enrollments, and indeed, the College had been able to save up a little each year for the future.

Why, then, would the College want to move suddenly to a different planning and budgeting process? Given the College's obvious success to date, the need for changing the process was not obvious at the outset to many administrators. The proof was in the pudding—the College had already evolved an effective informal planning and budgeting system, one that was sufficiently results oriented, data based, and long range to bring about the state's second-largest junior college, an institution which was more than adequately staffed, equipped, and housed on a beautiful 250-acre campus.

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[1] Dr. Bers is now Planning Officer at the University of Alabama in Birmingham.

And yet there were problems and challenges on the horizon as well as internal changes at the College, challenges which were very different from, and yet just as critical as, those it faced in its earliest years. They could be summed up as a sort of midlife crisis, a coming of age which the literature tells us every successful organization will probably pass through as a part of its life cycle (Scott 1971). It was characterized by a saturation of the original student market, the emergence of new and less well understood markets, a cost squeeze in which ever-rising costs finally outpaced increases in volume, and internal strains on the original management structure brought about by increases in institutional size and complexity. Each of these pressures had its impact on the College.

The Shifting Student Market

As with most American colleges, Gadsden State in 1975 faced the prospect of a gradual stabilization and decline in the number of traditional college-age students and a still more pronounced prospective decline in the number of veterans eligible for the G.I. Bill. As this pool began to level off, the College began to face increasing competition from other organizations drawing from the same pool—public and private colleges, trade schools, proprietary schools, the armed forces, and business and industry.

Meanwhile a new market was emerging—adults and senior citizens—whose educational needs seemed almost limitless (65 percent of the adults over age 24 in the College's service area had less than a high-school diploma). These new students were making new kinds of demands on the College. For those with full-time jobs or homemaking responsibilities, the times and places at which programs were offered had to be modified. They had less time and inclination than previous students to stand in lines and put up with red tape. Teaching techniques, styles, and materials that worked with 18-year-olds were not necessarily appropriate to the needs and interests of older students. Their needs were different in the support services as well: counseling, advising, job placement, financial aid, student activities, food services, and such. The large number who were academically unprepared placed particularly heavy demands on the resources and time of the faculty.

The shifting student market was forcing to the surface fundamental questions about the College's mission, scope, and priorities. What really was its business? A traditional college preparing students for direct entry into the world of work? An academic way station serving the community's life-long learning needs on a stop-in, stop-out basis? A sort of upward-bound program for the academically unprepared? Into how many of these businesses could the College afford to divide up its increasingly tight resources without compromising their quality? These pressures were beginning to impel key administrators toward a new, unaccustomed role: having to review programs, both new and old, for their effectiveness, their relevance to real community needs, their centrality to the College's basic purpose; and having to set priorities and to think in long-range strategic terms.

Contraction in the College's Resource Base

Hand in hand with the shifting student market came the seemingly inevitable contraction in the College's resource base. Gadsden State faced all the same problems of resource contraction that were faced at most other colleges, plus a few of its own: the declining enrollment, increasing plant and utility costs, a disproportionate number of tenured faculty locked onto a high (second highest in the Southeast) salary schedule, and—as if this weren't enough—a stricter application of state appropriation guidelines that eliminated appropriations for its community-service and continuing-education operations, which had amounted to a substantial proportion of the College's income.

The contracting resource base also raised fundamental questions. How could the productivity of existing staff and resources be increased (class size, workloads) without sacrificing quality? How essential were various programs, services, and personnel? How far back could a program be cut before it was no longer worth offering at all? These were not questions which the administration was used to grappling with in the College's first decade, and they were approached with great reluctance.

Increased Institutional Size and Complexity

The third pressure felt by the College with accumulating force was its increasing size and complexity, which by 1975 had brought on unprecedented problems of control, communication, and motivation. In its early years as a small, growing institution, Gadsden State needed an aggressive entrepreneurial type of leadership that knew the community, knew the College, knew what it wanted, and knew how to get it. Anything less than that could not have built the institution to its present stature. But as the College approached its present size, the president, even the key administrators, could not keep up with the details of the institution's fine structure and had to rely to an even greater extent on professionals among the faculty and staff. Somewhere along the line, the first-line and middle-level administrators had evolved into the program leaders, keeping day-to-day tabs on operations once monitored by the president and key administrators. And yet the key administrators continued to hold the reins of authority, finding it difficult to let go of them, to stop managing, to delegate, to avoid meddling in day-to-day operational affairs. And so, while first-line supervisors and middle managers continued to feel that somebody else had the real responsibility and authority for the destiny of the College, the president complained that the administrators failed to take responsibility, that he had to bail them out. Somehow, the entrepreneurial spirit that had driven the key administrators to such successes in the College's first decade would have to be transmitted to the program administrators.

Factors Contributing to the Need for an Integrated Planning and Budgeting System

It was in the annual budgetary process that these tensions were coming to the surface. In the College's first decade, resources were sufficient to cover anticipated expenditures, and little need was felt to determine the resource implications of new programs, additional faculty appointments, or new facilities. In those years, budgeting was a more or less mechanical process, an ex post facto affirmation of decisions made earlier rather than a critical decisionmaking process in itself. Where decisions had to be made, the president, business manager, and a few key administrators could make better-informed, more insightful, and more rapid decisions than anyone else.

But the developments discussed above dictated that the budgetary process become the vehicle for establishing priorities and setting institutional policy. For in the course of the mundane annual process of determining which programs were to continue, expand, or contract, whether faculty or staff positions were to be increased or cut, and whether new programs or projects would be started, the College found itself answering implicitly the most fundamental questions of institutional policy: What services should the institution support, for what target populations should they be provided, and what level of performance is acceptable?

The circumstances had changed but the traditional budgeting practices persisted, and under these new circumstances, such traditional budgeting practices as incremental budgeting and across-the-board cuts were becoming counterproductive.

Incremental Budgeting

The budgetary process of the first decade was incremental: A program administrator would begin building the proposed budget from whatever the current budget was. Incremental budgeting had saved labor and time-consuming decisions in a busy period, because both the budget manager and those who reviewed and approved the budget needed to concern themselves only with departures from current spending patterns. Incremental budgeting in a sense is budgeting by exception. The problem with this process in an environment of scarcity is that it tends to perpetuate the existing program, no matter how ineffective or inefficient—in fact rewarding the high-cost program with a continued high level of support and penalizing the lower-cost program. And by reinforcing and extending the status quo, incremental budgeting dries up funds available for new programs or opportunities that may be in the long-run interest of the institution.

The perceived necessity to "cover" every existing program first, to take care of the existing payroll, puts an unsustainable burden of justification on the proposer of the new program, no matter how well it compares with existing programs. Just as the College was beginning to experience declines in traditional enrollment sectors, its budgetary process was impeding the search for new markets and the adaptation of its programs, practices, and people to serving them.

The Across-the-Board Cut

As with incremental budgeting, the across-the-board cut is a labor-saving device that also has the appearance of equity. In times of growth, the across-the-board cut was usable, because there was enough money to go around and no program was seriously hurt in the process. But as resources contracted, the College found that there was not enough to cover every program, and a simple across-the-board cut could cripple some essential programs and services. This device also encouraged the padding of original budget requests and penalized the conservative budgeter.

Annual Reversion of Unencumbered Funds

Traditionally, the business manager cleared out unencumbered program budget balances at the end of the budget year to cover overages in other programs and to supplement new funds available for allocation in the new budget year. This was probably the most practical approach when finances were not critical. But it encouraged program administrators to "dump" unencumbered funds at the end of the year and doubly penalized those who had found ways to conserve their resources—by taking away money they had saved over the year and by giving them a lower current-year base as a starting point for defending the next year's budget request. And it eliminated any incentive to save current-year funds to pay for major projects in the future.

One-Year Time Horizon

The traditional budgetary process had a one-year time horizon. This period is consistent with both the legislative appropriation cycle and the State Department of Education's budget cycle. It is not, however, very practical for long-range planning. Little of importance is accomplished within a single year—building up an academic program to full strength, for example, may take up to five years. The one-year time frame encourages the funding of programs that appear favorable in the short run but whose more burdensome long-run costs can be hidden, programs that yield immediate returns and few risks. Conversely, it discourages the funding of programs which have high start-up costs but which yield greater benefits or economies in the long run. At Gadsden State, part-time instructors, who are employed for a quarter at a time, were favored over full-timers; month-to-month or year-to-year leases were favored over purchases. For example, the College entered into a lease-purchase agreement for its computer which appeared to keep yearly costs down, but when it had accrued payments to the limit of the contract, the College had to purchase the computer or see 100 percent of its monthly charge go to rental cost. The ultimate cost to the College amounted to financing the computer at a 33 percent annual interest rate.

Separate Approval of Staff Positions

The top administrators had the responsibility from the beginning for determining staffing needs and then recruiting and appointing personnel to fill them. This helped ensure that the people they brought on met their requirements, held compatible educational philosophies, and felt loyalty to the institution. To some extent, they delegated this authority to program administrators as the institution grew; by and large, however, appointments continued to be controlled by the top two or three administrators. Apart from reducing the program administrators' opportunities to build their own teams, this practice effectively eliminated their ability to move resources within the personnel category and between personnel and nonpersonnel items. If a faculty member resigned, for example, the division chairperson might feel that he or she could substitute a person with fewer credentials and reallocate the difference in salary funds to some much-needed equipment. Or, it might be felt that the position could be eliminated altogether and the savings reallocated to a new lab. But with positions effectively controlled from above, the program administrator loses the incentive to take such economy measures.

Item-by-Item Approval of Equipment Purchases

The handling of the equipment budget also was found to reduce incentives for efficiency. The president kept equipment funds in a separate account and approved equipment expenditures case-by-case from the account during the year. This policy made sense in a period when the president and business manager could keep tabs on the equipment that the College needed. But as the College's equipment requirements became more complex, this practice became counterproductive. By forcing administrators to route equipment requests through a separate channel, the policy tended to discourage the big-ticket purchases in favor of short-term "fixes" that could be buried deep inside an annual budget request. It discouraged program administrators from conserving equipment money for reallocation elsewhere. And at the time they were to approve an equipment request, the president and business manager had no way of knowing whether the next day equipment would be requested by another program that had a greater need for the same money.

All of these practices combined to reduce drastically the authority, the responsibility, and the willingness of the program administrator to take charge, to build the program for the future as the president had built the College itself, to deploy resources as the program administrator saw fit—from one category to another, from one year to another—to optimize their long-run productivity in achieving the results desired. But one other deficiency—which in the College's early days was not a deficiency—further contributed to the difficulty and the reluctance to engage in aggressive planning: the lack of adequate information about future costs, revenues, and benefits. When resources were relatively plentiful, the College could enter into new programs without inordinate concern about whether their costs could be paid from the College's revenues. But when resources became scarce, the College found that greater precision was required in anticipating both costs and revenues before it would be willing to make long-term commitments. In some respects, the *uncertainty* about future costs and income seemed to discourage new ventures even more than the *certainty* of reduced resources. Even though Gadsden State is publicly supported, the uncertainties surrounding the level of support that it can expect beyond one year are immense, depending among other things upon its future enrollment (in an open-door environment), the decisions of the state legislature, and the financial condition of the state educational fund. Uncertainties about future costs are nearly as great. While utilities are the most volatile (almost always costing more than the College dared predict), mandated cost-of-living salary increases play havoc with a budget that is about 85 percent payroll. The third uncertainty is lack of information about program outcomes and justifications. Can the program depend on a continuing supply of students? Will the job market for program graduates hold? Will the program be of sufficient quality to maintain credibility with prospective employers of its graduates? What sort of competition can the program expect from other colleges or training programs? Without reasonable assurance of a steady, reliable flow of students and income, the College became reluctant to launch new programs, preferring instead short-term commitments, programs with more immediate returns and fewer risks.

The foregoing analysis suggests that the College had indeed reached a midlife crisis in 1975; that the entrepreneurial spark which had impelled the College to its present size, complexity, and reputation would have to be transmitted to the program administrators and middle-level managers; and that the role of the key administrators should shift toward greater attention to long-range strategic planning, program review, and priority setting. The College's situation bears considerable similarity to that of the functionally oriented corporation discovering a need to reorganize along product-oriented lines (Scott 1971).

Given the preeminent role of budgeting in the decisionmaking process, this redirection in the College's total management style could not be accomplished without a reorganization of the budgetary process. In keeping with the administration's intent to raise the status of program administrators from hired hands to entrepreneurs, the budgetary process should be realigned so as to untie as many constraints as possible from their authority to deploy the full range of resources consumed by their program, including salary, nonsalary items, and capital equipment. They should be able to save money by cutting costs in one area for reallocation to another. As an incentive for conserving their resources, they should be able to retain the money they save in one year to plow back into future operations. They should have the opportunity to respond to new developments, new clientele, and new technology; to try out new approaches; and to fail from time to time.

But they should also be exposed to some of the entrepreneur's risks. They should be required to plan and budget over a long-range period (say, five years), to think strategically, and to accept the long-range consequences of their planning decisions. There should be a direct relationship between what they accomplish (teach students, serve meals) and what they earn. If they end up in the red one year, they should not expect to be bailed out. They should be required to justify their programs to key administrators and to compete for the institution's resources on an equal basis with other programs by demonstrating how they will advance the College toward its institutional objectives and priorities. They should be willing to accept the consequences if their program begins to lose students, if it falls behind competing programs at other institutions, or if it fails to respond to new needs.

The budgetary process should also help key administrators in exercising their responsibilities for strategic planning and program review. Before deciding to commit resources to any program for another year, the key administrators should have the opportunity to compare all programs side by side with respect to relevance to institutionally defined goals and priorities, effectiveness, efficiency, educational needs, and costs. Since it is unlikely that they will decide very often to abolish a program entirely or start a new one from scratch, it would be particularly helpful to key administrators if they had a fairly firm idea of the consequences of making marginal changes in the budgets of existing programs. But they should also have the opportunity to examine proposals for new programs side by side with budget requests from existing ones. To minimize the risks they face in committing resources to programs or personnel, they should have before them accurate, reliable long-range projections of each program's costs, benefits, and revenues.

Development of the Planning and Budgeting System

The College's Committee on Institutional Planning established a task force to design a new budgetary process in line with these requirements. As developed by the task force and adopted by the College, the new process consists of four phases.

1. Formulation of institutional planning and budgeting guidelines
2. Preparation of program plans and budgets
3. Review, consolidation, and approval of program plans and budgets
4. Implementation of program plans

These four phases are tailored to the roles for key administrators and program administrators previously described: a strategic-planning role for key administrators and an operational-planning role for program administrators.

Phase 1: Formulation of Institutional Planning and Budgeting Guidelines

This phase is concerned with establishing institutionwide directions, ground rules, and guidelines for program planning. As such, it was identified as the prerogative of top management, with advice, where appropriate, from the faculty. To carry it out, the College established a Budget Review Committee consisting of the deans and business manager. A separate Priorities Advisory Committee, consisting of elected faculty members, was established to provide faculty input to the Budget Review Committee.

Under its new planning system, the College had identified key environmental developments and assumptions, and formulated institutional goals, objectives, performance indicators, and priorities. In Phase 1, this core of information was supplemented with enrollment projections by program, revenue projections, faculty requirements, cost projections, and budget targets—all projected over a five-year planning horizon. The procedures are described in greater detail in Bers (1979).

In developing budget targets for its five major program areas, the College deliberately retreated from a "pure" process in which every program competes for all resources from the ground up. This compromise helped to prevent some of the rancorous debate often associated with zero-based budgeting. At any rate, whether one begins the process with budget targets from above or budget requests from below is immaterial so long as it is followed by a negotiating process through which all parties can arrive at a mutually acceptable budget level. Nonetheless, to preserve the concept of competition for resources and to preserve the incentive for program administrators to respond to new needs and opportunities above and beyond their normal operations, the College set aside a venture fund amounting to 5 percent of anticipated revenues.

Phase 2: Preparation of Program Plans and Budgets

The second phase occurs at the program-administrator level. Here the enlightened self-interest and expertise of faculty members and division chairpersons is built into the planning and budgeting process. This phase intentionally puts the burden on program administrators to propose and defend to their superiors what they feel they need or want, based upon the planning and budgeting guidelines. Under the College's planning system, each administrator had already formulated goals, five-year objectives, program performance indicators, and priorities within the framework of the institutional planning guidelines. To help build his or her case, the program administrator is provided additional information on projected enrollment; new developments; course, section, and faculty requirements; and evaluative data on past program performance. In the first year the process was in effect, administrators were asked to prepare a minimum budget request no greater than 95 percent of their current budget and a maximum request that could go as high as 105 percent of the current budget. The amount freed up by holding each administrator to the 95-percent level was allocated to the venture fund. In the second year, the 95-percent requirement was dropped.

Phase 3: Review, Consolidation, and Approval of Program Plans and Budgets

The review of proposed plans and budgets is the responsibility of the key administrators, who constitute the Budget Review Committee. It is a process of judging programs and program plans relative to the institutional guidelines in order to make informed, carefully considered decisions about the allocation of resources to programs. Information provided to the Budget Review Committee in addition to program plans includes various indicators of program health—enrollment levels and trends, costs, size of staff, faculty workload data, numbers of program completers, level of need or demand for graduates, success of graduates, and such. In this phase, deans are expected to consolidate program plans and budgets to set priorities among them to ensure that the overall budget for their area falls within their budget targets. To recommend allocation from the venture fund to proposed activities, the College established a Priorities Advisory Committee consisting of administrators and faculty members. This committee provides a vehicle for the faculty to participate in overall decisions about resource allocation. The final consolidation of the budget, including recommended priorities for venture-fund allocation, is assigned to the Budget Review Committee. The consolidated budget is then submitted for approval to the president and in turn to the State Department of Education and the State Board of Education.

Phase 4: Implementation of Program Plans

Once the plans and budgets are approved, the action shifts back to program administrators—to deploy the resources allocated to them to achieve program objectives. Program administrators and their superiors are expected to monitor progress on a regular basis, to detect any deviations from what was planned, and to take timely corrective action. Information is provided to them in the form of budget-control reports and exception reports to help them to determine whether enrollments are holding up, budgets are being spent as planned, faculty workloads are keeping within planned ranges, and in addition, whether unanticipated developments have arisen that should cause them to change their plans. If unanticipated needs, opportunties, or problems arise during the year that have major budgetary implications, the two budget committees may reconvene to consider requests for transfer of funds among programs. Each year, program plans and budgets are to be updated or revised as necessary and extended for an additional year to preserve the five-year time horizon. As an incentive for efficiency and conservation, program administrators are permitted to carry forward unexpended balances into the following year if justified.

Results

The integrated planning and budgeting process has been in effect for the past two budget years. In retrospect, perhaps it could be called a qualified success. Above all, it has been instructive. From both its successes and its disappointments, some valuable lessons have been learned. The process was supposed to get the cards on the table—to provide administrators and faculty access to the planning and budgeting process. In fact, the process has opened up the budget itself, the sources and uses of funds, the assumptions, the projections, and the whole budgetary decisionmaking process to study and participation by faculty and first- and middle-level administrators as well as key administrators. It has helped to make administrators at every level aware of the full dimensions of the financial contraction facing the College. The process has helped to alleviate the suspicion that resources were being held back, squirreled away, or squandered on pet projects. The new process *is* more cumbersome than the old one in that decisions get routed through various organizational channels before the buck stops, but this greater attention to channels and input probably has produced broader acceptance and support for the decisions that are eventually made.

The Colleges also learned that there are limits to the degree of faculty and mid-management participation in decisions about resource allocation. In the first year, the Priorities Advisory Committee, which was initially combined with the Budget Review Committee, found itself bogged down in all sorts of financial details which should have been handled by program administrators. These overwhelming details distracted the Committee from its basic function of setting priorities for the institutionwide allocation of resources. A still more serious problem was the pressure felt by faculty members and first-line supervisors on the Priorities Committee to abandon their impartiality, to defend their programs and those of their counterparts, and to refrain from criticizing favored programs or from contradicting higher-level administrators. The College alleviated these pressures in the second year by taking the key administrators off the Priorities Committee and assigning them to the Budget Review Committee, which met separately from then on.

The process was also expected to extend to five years the time horizon according to which plans and budgets are developed so that the College would take into account the full return on investment of those plans and budgets in allocating resources to programs. Although program administrators and deans were expected under the new process to balance their budgets over the full five-year planning period, they found it difficult enough to balance them for just the first year. Short-term budget-cutting steps were taken: increasing faculty workload to four sections per quarter, cutting back on part-time faculty, not replacing attrition (except in extenuating circumstances), reducing nonsalary expenditures, and cutting back sharply on two programs (athletics and student transportation) which the Priorities Advisory Committee considered peripheral to the College's central educational purpose. But there was a compelling inclination among administrators, when looking out over a five-year period for the first time and seeing serious financial difficulties on the horizon, to "cross that bridge when we come to it."

Nonetheless, the five-year horizon had its benefits. The five-year projections turned out to be quite accurate, at least in the first year. They succeeded in focusing serious attention on key medium- to long-range trends in enrollments, revenues, resource requirements, inflation rates, and other key variables. The long-term faculty-requirements guidelines (derived from the enrollment projections) generally were followed by academic administrators and have provided objective supporting documentation for their decisions. And although they are still balancing their budgets for just one year at a time, administrators consider the five-year perspective valuable in helping to make more immediate decisions and resource commitments.

The process was also intended to "put administrators in business for themselves" with respect to their allocational authority over their own programs. On the whole, the budgets prepared by program administrators were put into effect in both budget years. For the first time, program administrators included equipment in their budgets instead of requesting it from a separate fund. On the other hand, a key incentive for conservation and long-range planning—the provision allowing program administrators to carry over unexpended balances to the next year—was not honored at the close of the first budget year. Two reasons were identified. First, it was found to be very hard to determine whether an unexpended balance was due to good husbandry of resources or simply to underutilization of funds or overbudgeting at the outset. Second, the press of meeting existing commitments placed enormous pressure on any unexpended budget balances. As might be expected, a few other hitches developed in the delegation of budgetary authority—some program administrators found that they had to rejustify expenditures that had already been included in their approved budgets, while others still succeeded in getting resources through end runs around the process.

Finally, the process was expected to help the College to base resource-allocation decisions on the educational outcomes to be expected from its programs. The biggest disappointment of the new process has been that restrictive financial conditions have not led to the expected reexamination of programs in terms of educational results produced. The desired linkage between resources consumed and outcomes attained has not been attained. Formulating program goals and measuring performance have come to be seen as interesting exercises but irrelevant to obtaining resources. The hard fact of the matter is that there are few forces in the College's environment that compel it to achieve measurable educational results and many that actually constrain it.

The most powerful constraining force is the College's existing commitments, its uncontrollable expenditures—particularly tenured faculty and maintenance of the physical plant—which make it unfeasible to begin, terminate, or change programs at will. For practical purposes, new programs or ventures *cannot* be put on an equal basis with established programs in competing for resources. Thus the venture fund, the 5 percent set aside for innovative programs and projects, yielded to the financial imperative of meeting existing obligations. Those who had kept their budget requests within the guidelines, and who had gone to the trouble to propose and defend new projects, felt embittered and disillusioned with the new process when their projects were turned down in order to pay for what were considered the basic operating expenses of the instructional program.

The other reason for the neglect of educational outcomes in the process was the low level of credibility of the outcome measures. For each institutional or program goal, administrators had selected multiple measures—student satisfaction, future student educational and career progress, results of licensing and certification examinations, and employer satisfaction with students' preparation—many of which were taken directly from the NCHEMS *Outcomes Measures and Procedures Manual*. But there seemed to be no end to the weaknesses that could be found in them—the questionable validity of student opinions, low response rates, the lack of correspondence with what had been learned in the classroom, lack of historical or comparable data from elsewhere, and so forth. When the crunch came, when budgets had to be determined, these measures yielded to the more traditional measures, those in which the College had a more immediate vested interest: the regional accrediting association's recommended expenditure guidelines (large departures from them could cause the College problems with its upcoming reaccreditation) and credit-hour production (the basis on which the College's state appropriation is calculated). Given the constraints of existing financial commitments, the lack of broadly acceptable outcome measures, and the absence of external pressures for accountability, the College is just not ready for a hard-nosed, outcomes-based resource-allocation process.

On the other hand, a formula-budgeting approach based on credit-hour production, combined with some judiciously chosen, broadly understandable cost analysis, seems to fit the College more comfortably. As it turned out, credit-hour production was found to have some very desirable characteristics as a performance measure, apart from its financial importance. It is easily computed, readily available, and broadly understood and supported at the College as a measure of work output. It can be used conveniently as a criterion for determining requirements for faculty and other resources. Accordingly, of all the outcome measures available to it, the College actually relied upon credit-hour production as the primary criterion for allocating resources. It has reduced the uncertainty, the variability, and the burdensome calculations of a pure outcome- or zero-based budgeting process. Yet it has retained the zero-based element of accountability by relating resources obtained to units of work performed. And it has helped to put program administrators in business for themselves by making it possible for them both to earn and save money for their programs through active financial management.

A final point is in order in closing. Whatever success the planning and budgeting system has enjoyed can be attributed largely to the care taken at the outset to analyze the College's management style and the internal and external forces acting upon it, as discussed in the first section of the chapter. This process was facilitated through the participation of the administration and staff in the development of the new system. As a result, the system is responsive to this college's unique needs: its present level of budgetary and managerial sophistication, the relative priority of political, financial, and educational concerns, the state funding mechanisms, and the College's financial situation. There are few shortcuts to the process of shaping a planning and budgeting system to accommodate the institution, but at Gadsden State, the results were well worth the effort.

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Linking Academic Planning and Budgeting

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As universities, colleges, and higher education in general move through each watershed period, certain means, techniques, and values seem to stand out more visibly than others in the responses to the changing conditions that create the watershed era. One observer has pointed out the appearance of "grand strategies" in the seventies designed to regain consensus in higher education. According to that view, these grand strategies, each with its own advocates and zealots, were offered to achieve reform, renewal, and eventually consensus (Fincher 1975).

The changing conditions of the seventies and those forecasted for the eighties are producing new grand strategies and reemphasizing old strategies that failed to produce the desired effects previously. The current trend (which I consider a positive one) to develop academic planning that is open, rational, and effective is in the great measure an evolutionary stage in efforts to develop a grand strategy by which universities and colleges may respond to the current and forecasted flattening enrollment and resource growth curves.

Academic planning as we have known it was established during times of extraordinary growth in all aspects of higher education and was designed primarily to cope with that growth. During that period (1945-1970), formula budgeting emerged to reduce the complexity by which public funds were allocated to meet, in an orderly manner, the needs of this unusual growth rate. The "planning" that took place was rarely a vigorous review of alternatives. Institutional research offices and functions emerged as a complement to formula budgeting but rarely as genuine operations analysis. It was at the juncture of developing formulas for different aspects of academic programs that a linkage was first established between academic planning and budgeting.

During this recent past, the planning process and the organization for it became so specialized and technical that it rarely came together in a unified or coherent form—at least not at the institutional level. Not only did specialized techniques and organizations appear *within* institutions, but also something called academic planning emerged in central administrations of multicampus systems and in state councils, boards, and commissions. Our current response to present and forecasted conditions will likely produce a new type of academic planning that eventually will become more closely linked with budgeting in ways quite different from the formula-budgeting approach of the past. Unfortunately, it is likely that the intensity of need and interest in such linkage will result in different quality, forms, and methods by organizations at different levels.

From the earliest days of formula budgeting, it has been recognized by the insiders that the method was somewhat unlike other public funding formulas applied unalterably to each individual or subunit constituting the aggregate from which the formula was derived or to which it was to be applied. The formulas for providing funds to colleges and universities were convenience mechanisms to generate adequate funding at high levels of aggregation to meet the growth needs as forecasted or projected by academic planning.

The respective faculty groups involved in the planning focused primarily on the number of new faculty needed to serve new students (based on continuing the pattern of the past) and the facilities and equipment for them. Since in most cases the formula at the highest aggregate level was not applied uniformly in making allocations, considerable internal negotiability was the order of the day. Behavioral patterns of faculty were greatly influenced by the net increase in resources and negotiability within the increase.

These past models of budgeting and planning involved the development of enrollment projections by one group of methodological experts, the preparation of academic programs by the faculty disciplinary specialists, and the translation of these two factors into resource needs for budget purposes by still another group, budget technicians. Groups of specialists created information systems as tools to be used by the various other groups, and physical-facilities planners became staff to specialists inside and outside the institution. Many of these specialists preached a mythology that planning was something that generalist academic administrators could not do and that such responsibility should be left to them.

Other aspects of the budgeting model with which most of us are familiar portray the institution as expansionist, the budget-review groups as budget-cutters, the legislature as interest-group accommodators, and the governor as the money-provider or budget-balancer (Anton 1967). Gradually, these and other models removed most line academic administrators from strategic and key operational budget decisions and transferred those functions to the president and to high-level technicians or professional administrators without broad academic experience or training. As a result, real integration of planning and budgeting and policy management associated with such integration are not seen as having been effective. The very title of this paper indicates how far we have come in separating budgeting from planning, when in fact they should be seen as inseparable in an effectively managed institution.

Indeed, budgeting has many faces that must be addressed in the planning process. To the institution, budgeting is often viewed as a means for generating funds for operation; to the state and other public authorities, budgeting is a means by which public policy is carried out and public service delivered. The budget, then, is a resource plan to achieve the objectives of public policy and the operational needs of the institution and its aspirations. Likewise, to be effective, planning activities must be linked to some implementing mechanism, such as policy or the budget. To have an impact, plans must be realistic, operationally focused, and reflective of resource demands.

The decline in growth in most aspects of university and college operation in recent years has produced an emphasis even greater than before on linking academic planning and budgeting, especially in the larger, more complex multicampus organizations. For example, in their updating monograph on selected multicampus universities, Lee and Bowen (1975) point out that "the major change in the past few years...is not in technical budgeting procedures but in a closer relationship between budgeting and academic planning" (p. 59).

Although most planners over the past quarter century viewed planning as "concerned with setting goals and objectives, forecasting the environment, and determining the approach and method to be used for management tools for producing desired changes in an organization's direction, structure, and manner of operation" (Halstead 1979, p. 301), the *process* by which it was done was not given high visibility nor was there broad participation in that process. Substantive integration was infrequent.

The Planning, Programming, Budgeting System (PPBS) emerged during this period of formula budgeting—along with systems analysis, operations analysis, and cost-benefit analysis. Efforts were made to apply these concepts to universities and colleges. These methods attempted to go beyond the formula that served as a bridge between academic planning and budgeting. They did so by seeking to identify and analyze alternatives, interrelationships, and trade-offs relevant to the institutional context and the forecasted future environment. Unfortunately, these efforts and the concepts behind them were ineffective—but not wholly or necessarily because they were inappropriate. They were not effective because the form in which they were applied was too highly technical and because too little thought was given to behavioral responses. There was also a serious absence of personnel skilled in adapting the system to higher education. The methods used were rarely integrated with strategic planning in response to probable future environments. More time and effort was applied to determining categories, classifications, mathematical formulas, and program structures and elements than was devoted to genuine strategic planning, environmental analysis, and broad policy management. Aaron Wildavsky's (1969) refrain of criticism that the PPBS fixation on program structure leads to an emphasis on data collection at the expense of policy analysis was taken up by many experienced administrators as well as seasoned senior faculty leaders involved in the planning process. Wildavsky's view that the budgetary process is a system of political interactions more than a technical accounting procedure spoke to our experience and intuition but was resisted by our ideals of rationality and our values about politics in the academic community. After all, cannot both be appropriately involved in decisionmaking?

We are now at a stage of development in the management of institutions of higher education in which we have an opportunity to achieve "more than survival" in the future decades of little or no growth. To do so, however, we will need an improved and effective linking of academic planning and budgeting.

In constructing this linkage, an institution and its leadership must take into account the various internal behavioral reactions and consequences likely produced by various methods and approaches. Likewise, a constant assessment of probable external responses to the methods of linkage should be maintained.

The means chosen to integrate academic and fiscal planning and decisions will generate different behavioral responses as well as reflect philosophical and conceptual assumptions (articulated or not) about the institution, its nature and environment, the nature of the professionals who constitute it, and about the management of such an organization. Central to the approach suggested in this paper, for example, is the assumption that the behavior and activities of a university or other higher-education institutions, and the professionals within it, are susceptible to policy and structural changes.

In this behavioral context, one must consider the view that planning in many organizations has survived the expansionism of the previous decades and evolved into a control process designed to counteract the decentralized management structure, whereas it was first introduced as a means for liberating or devolving initiatives. Similarly, the earlier type of planning for predictability has given way to contingency planning concerned with the preparation of alternative responses to a possible range of external actions or policies.

The behavioral aspects of implementing an integrated system of planning deserve thought, identification, and consideration. These aspects are likely to have far more effect on the success or failure of the system than the technical and procedural methods. It is most important, for example, that line academic administrators (deans and discipline or department administrators) agree on or at least discern the beneficial probabilities and results of integrated program and fiscal planning and decisionmaking. These officers are key participants as well as opinion influencers who will greatly affect, if not fully determine, the success or failure of integrated planning. Real incentives for the participants in the process should be highly visible.

In view of the evolution of university planning, that is, in moving from planning for determining the *amount* of *new* resources for certain growth, then to a review of programs in order to improve and expand them, and now to planning as a means to reallocate current or old resources, it is extremely difficult to construct an integrated system of planning that contains highly valued incentives for faculty. An institution's history and environment are prominent in developing meaningful incentives. Institutional leaders must consider the nature and history of the organization for which the planning system is constructed. A multicampus system will utilize somewhat different approaches than a single-campus institution with its own board. Likewise, a clear understanding of the external conditions and the probable behavioral consequences of alternative methods of planning are extremely important in the process and policy developed.

Strategic-Planning Commitment

How, then, does an institution improve the linkage of academic planning and budgeting in ways that influence constructive institution-building behavior and effective management? The first step, of course, is an institutional commitment to this goal as part of its overall *strategic planning*. This commitment must be communicated throughout the institution in meaningful, observable, and positive ways. A corollary to this commitment is an emphasis within strategic planning that focuses more on qualitative and substantive goals and policies to achieve them than on quantitative monitoring and control measures.

The commitment to accomplish meaningful and effective linkages between planning and budgeting has to be founded upon an informed conviction that the effects and results of such linkage are beneficial qualitatively and behaviorally and worth the effort, energy, and other costs required. With this commitment, there must be a determination to do everything possible to maintain the initiative in developing plans and the planning process, as contrasted with merely responding or reacting in a knee-jerk fashion to the external environment, external planners, or internal immediate pressures.

Structures, Policy, Process, and Tools

Once the decision is made to improve the integration of academic planning and budgeting, considerable attention and study must be given to structures and policies by which the goal may be achieved operationally. It is at this point that *tools* often emerge as having an equal role with structure and may detour the effort. Policy and organizational design are often pushed into the background and submerged within procedure. One of the reasons for this development is that policy clearly appears to require participation by constituencies, whereas such involvement is not so clearly required for tools. Moreover, effective policy is more communicative and direction-setting than tools. An altered organizational structure also presents constituency problems.

It is at this point that we often accommodate the approach to the uncertain behavioral consequences of policy and its management by substituting *process* (which is equally important if integration is achieved) for policy and structure. In fact, process may substitute for both.

Strategic planning must go beyond the traditional role and scope and mission statements of broad generality, although such documents, if reflective of reality, are important base documents in constructing an effective planning system. It is necessary to interpret such statements by strategic long-term goals within which operational and medium-range objectives may be developed by personnel responsible for the delivery of programs. Likewise, self-study exercises and documents should be considered as primary documents influencing the establishment of strategic objectives. All these documents should describe the substantive goals which the planning should seek to achieve.

Moreover, institutional *policies* to achieve strategic-planning goals and priorities are as important and essential to an integrated planning process as the commitment to implement it. Well-designed, consistent, harmonious, and coherent policies permit appropriate decentralization without unproductive fragmentation and permit more appropriate use of specialists and other tools for achieving the goal. Beyond strategic planning, policy development and its management toward the strategic goals identified is the next most important area of action in building an integrated system. Such policy development influences the multiple uses of a variety of tools and reports, including accrediting reports, self-studies, and program reviews, as well as the determination of enrollment projections and allocations. It also influences institutional, college, and program priorities, contingency plans, and the format and use of the budget as a policy document. Policies should be viewed more in the context of their planning function than their control aspects.

The broad foundation for achieving effective linkages of planning and budgeting is a supporting structure and the expert personnel requisite to accomplish the objective. An effective organizational design and a structure of decisionmaking to carry out that design, implemented expressly to achieve effective linkages of academic planning and budgeting, should be viewed as primary means to accomplish the task. The structure should be designed to integrate academic and fiscal planning at several points in the organization. Information and tools required for decentralized integration should be "pushed downward."

Elsewhere in this publication, Arns points out the value of utilizing information from program reviews to assist in budgeting and resource allocation. Program-review findings are even more valuable in medium- and long-range planning. A system of periodic reviews in which given clusters are reviewed each year to accomplish review of all programs over a specific time period (5, 7, or 10 years) is most valuable to foster implementation of the institution's strategic planning in digestible increments. The utility of a five-year program-review system is greater in effecting internal program change and in assessing program quality. As Arns suggests, however, ascribing value to a program within an institution's priority system is extremely difficult when it is analyzed in isolation. Determining and assigning the relative value of one among several programs in a comparative analysis is not as difficult in a quantitative context, but such judgment poses the potential for severe hostility and other negative behavior reactions with the faculty, students, and others. The role, process, method, and impact of program review is set by policy and its management.

Similarly, policy should attempt to focus on the relationships of value, performance, and resource management. The state of the art (and science?) of relating program results to the level of resources needed, provided, or utilized is not very promising. As one consequence, the reality of our inability to predict educational or other results in the learning process by the amount or type of resources committed has constituted a barrier to confident resource allocation for academic objectives. In focusing on those input factors which tradition has asserted to influence high probability of educational quality or improvement, we produce negative reactions from significant external communities. Conversely, if we focus on the substantive cost-benefit of the value-added approach, we utilize tenuous analyses and create negative behavioral response among our faculty, who should know the relationship of resources to effective achievement of educational results if anyone does. Until the state of the art is improved, the linkage of academic planning and budgeting will need to assign tentative value to the various investment and performance measures.

It is clear, however, that certain simple management objectives may be achieved by resource-allocation policies. These management results include increasing or reducing student opportunities, reducing or increasing class-size average, reducing direct institutional costs, faculty-development opportunities, readdressing specific resource deficiencies as identified by accrediting standards, improving the number of highly experienced and positively evaluated faculty, improving access and equipment in facilities and laboratories, and providing more varied and available learning resources. Admittedly, there is no guaranteed numerical or quantitative relationship to these management objectives and improved student learning, performance, or acquisition of academic competencies and skills. The enhancement of the availability of resources in the learning environment, however, has a higher probability of impact on academic achievement than any other single factor we know. In the strategic planning for our institutions, it is necessary to include as a corollary to the linkage of academic planning and budgeting the goal of developing realistic and appropriate performance (management) objectives and measures that recognize some clearer relationship to the level of resources applied than we have at the present time.

Such strategic planning will move us to clarify learning objectives operationally, discipline by discipline, and, in many cases, instructor by instructor. While many disciplines have improved their articulation of learning objectives over recent decades, the relationship of the manner in which resources are applied to facilitate the achievement of these objectives needs much more clarification. In the organizational design and the decisionmaking structure developed to implement the planning, several integrating points should be developed in which an understanding of fiscal and academic implications of decisions, plans, or forecasts is routine and commonplace. The individuals who make academic decisions should be aware of their fiscal consequences, and those responsible for the mechanics of budgeting should realize that the substance of budgeting is planning. This argues for broader understanding of decisionmaking at the department or discipline and college levels. It also requires making information tools available to those levels. Moreover, this approach demands academics who are willing to become more knowledgeable about program and fiscal management than have been usually available in an institution. The alternatives to academic generalists are technical specialists or technical generalists who do not have academic experience or values.

David Brown (1974) has made an excellent case for placing full responsibility for planning (and implicitly, for substantive budgeting) with faculty and avoiding the use of specialized, professional planning officers. While my experience in rather large, complex, multicampus institutions has fostered an appreciation for effective planning specialists who understand their staff relationships to faculty and the academic enterprise, I believe that there is a much better chance for creating positive behavioral results when faculty are actively and visibly involved in an influential manner in the planning process. It also seems that where there is genuine or presumed consensus about goals and values among key administrative leaders and those affected, there is less conflict over process and participation. Similarly, the more recognition of diversity and pluralistic goals and values, the greater is the emphasis and importance of process and participation. The assessment of the consensus factor as an influence on strategic planning, organizational design, policy, and process is critical in developing an integrated planning system that will build and reinforce positive behavior.

Institutional policies and organizational design should provide for the various tools such as information systems, analytical services, and operations analyses that are fundamental in strategic planning as well as policy development and management. Care should be taken, however, that these support tools do not become ends in themselves or decisionmakers.

The External Environment

It was pointed out above that some beneficial effect must be seen in the planning in order to encourage supportive behavior. This leads me to comment on an increasingly important factor in the planning process, namely, the relationship of internal planning to external planning and decisionmaking. The degree of confidence that internal and external participants have in the institution's planning process and the degree of assurance that resources will follow such planning are critical factors in developing an effective system of planning. The centrality of this reality to the planning process requires continuing efforts by the institution to establish integrity in the planning and budgeting processes and a strategic plan that is in harmony with the funding environment. State legislatures, coordinating boards, and their staffs often create havoc for the institution's planning because (1) the plan did not contain sufficient options or contingencies, (2) the role and nature of options and contingencies built into the planning process were not understood internally, (3) the external funding source or reviewers had different planning goals, (4) the institution's strategic planning was interpreted to be at conflict with the goals of the funding agency, or (5) the plan was simply unrealistic in terms of the social, economic, and political context. Effective linkage within the institution requires maintaining the initiation at the boundary to convince the external community that the planning and the resources needed are consistent with a large public purpose that is supported.

If we are to maintain and improve the health and quality of universities and colleges in these times of high inflation and low real resource growth, we have no choice but to improve the linkage of academic planning and budgeting and to go much further than formula budgeting. It is necessary to place this goal at the heart of the institution's strategic planning and make commitments to achieve it. The planning must consider the internal and external behavioral objectives desired, sought, and probable. It must also identify the current and probably future internal and external environments within which the planning must take place. An organizational design, including a decisionmaking structure and process and policies designed to achieve the linkage, is essential. It is absolutely imperative that there be concerted and sustained effort to work with external funding sources and influential boundary organizations that will determine whether the planning is translated into achievement.

Planning and Operational Decisions

A final requirement for linking planning and budgeting is to include in the organizational design provisions to involve planning and strategic planners in operational decisions. If there is any single point about which I have disagreed most with my advisors, staff, and colleagues, it is my view that planning officers must be seers of the future who are also *involved* with more immediate operational decisions. Today's decisions must be made in light of their probable impact on the plan for the future, and future planning must be provided in the reality of the immediate—with imagination and creativity to design means and steps to reach desirable futures. It is conceded that implementation and planning for implementation may be separable in concept and operations, but when they are not integrated in operational decisions, strategic planning is dysfunctional. The real test of linkage is the relationship of resource *allocation* to incremental steps to achieve long-term goals.

In summary, the linkage of academic planning and budgeting is central to improved management of universities toward quality learning environments for students, professional support for faculties, and responsible accountability to the society. Such a commitment should be at the heart of each institution's strategic planning and should drive much of the institutional policy. Policies should be developed and managed as planning documents with an understanding of the probable behavioral responses. Institutional organization and structure should be designed to accomplish and harmonize with strategic goals and policies. While we do not know exactly or empirically the relationship of program quality or success to the resources provided, we can relate management objectives to resource allocations in ways that increase the *probability* of improvements. We must continue efforts to understand the relationship of resources to academic-program results and consequences but in the meantime must use what we know in integrating academic planning and budgeting. Participation at the various levels of the university hierarchy and an integration of fiscal and academic planning at each level are essential for positive results in the planning system and in the life of the academic community. Clearly, the institution's planning must not come into serious conflict with the planning of the external decisionmakers and funding agencies. More than ever before, harmony with the external environment must be achieved to the degree possible if planning success is achieved. Such harmony has to be developed within the bounds of institutional integrity, but both are required for good institutional health.

More succinctly, improved linkages of academic and fiscal planning may be accomplished by:

1. Maintaining institutional commitment to such linkage in strategic planning
2. Focusing and securing agreement on the substantive goals that the linkage and the strategic planning are designed to achieve
3. Translating these goals into policies and priority objectives to achieve them
4. Developing and implementing an organizational and decisionmaking structure to accomplish the objectives with positive behavioral responses
5. Maintaining and updating academic plans, mission statements, and role and scope statements as tools
6. Maintaining and utilizing common information and data systems throughout the institution for academic and budgetary planning and decisions
7. Integrating the resolution of fiscal issues, qualitative issues, and program aspirations at the lowest administrative level possible
8. Increasing development of generalist academic administrators who are expert in the various linkages of planning and relying upon faculty in the planning
9. Developing a planning environment in which management or performance objectives and measures are considered normal at all levels of faculty and administrative decisionmaking
10. Making current day-to-day decisions clearly related to longer-term planning goals and objectives

Linking academic and fiscal planning more effectively is merely one, albeit a major one, of the needs which American universities must meet in this critical watershed of institutional history. But for those institutions achieving more than survival in the eighties and nineties, effective linkages between all aspects of planning will likely be a crucial factor in that achievement.

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Enhancing Planning and Budgeting Decisions through a Modified Zero-Based-Budgeting Approach

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Introduction

Experienced educational administrators must admit that there are no easy solutions to the resource-allocation and resource-attraction problems with which universities have been confronted during the 1970s. Following a decade of growth driven by burgeoning enrollments and strong national support for university-based thrusts in basic and applied research, the decade of the seventies provided a period of transition for the higher-education enterprise—a transition to what is judged by most observers to be a 20-year period of limited growth or even decline, during which those charged with administering colleges and universities must learn to manage in the steady state.

The approach described here represents an attempt to integrate planning and budgeting functions at The University of Arizona, a complex public university. It is neither zero-based budgeting, performance budgeting, incremental budgeting, budgeting by objective, nor PPBS, but a planning and budgeting process that incorporates elements of each of these software technologies. Designed to bring resource-allocation and revenue-attraction activities together through a structured decisionmaking process, the system produces budgets formulated to accomplish specific objectives and provides executive and legislative analysts, legislators, and departmental, college, and university administrators with a practical method for making resource-allocation decisions.

The system can be characterized as one in which marginal changes in real budgetary support are made annually in the *continuation* (base) *budget* through *decision packages* (both incremental and decremental) that are evaluated by each level of management within the institution. These changes may reflect internal reallocations resulting in a real increase in the continuation budget of one department or division and a real decrease in the continuation budget of another, or in a real increase in the continuation budget of the institution. The latter is represented by the *improvement budget,* which consists of a collection of decision packages ranked by priority within each of six general-fund programs (instruction, organized research, public service, academic support, student services and administration, and institutional support) and across all programs to reflect total institutional priorities.

Offering a structure for resource-allocation decisions on the part of trustees, executive and legislative budget analysts, and appropriations committees in the state legislature, decision packages provide a statement of objectives, a brief description of the program that will be mounted to meet the objectives, and a specific representation of the resources required to operate the program. Decisionmaking at each level is focused on discrete programs, rather than broad generalizations treating incremental funding in each of several expenditure categories. The process produces a clear understanding of institutional priorities at each level of decisionmaking and permits all concerned to assess the merits of the investment decisions that they are required to make.

Background

This planning and budgeting system was implemented over a period of three years as a replacement for a relatively unstructured process that provided little relationship between requests generated during the annual budget-development exercise and the actual distribution of resources to operating units of the institution. Budget requests were developed on an incremental line-item basis. Increases in expenditure authority approved by the state legislature were developed similarly. In good and in bad years, this sytem had the effect of incremental increases in allocations to departments and divisions in proportion to the increases that they had requested, perhaps with some marginal adjustments to meet crises perceived to exist in one or more operating units. Beyond the obvious inefficiencies of this system, the tendency of department chairmen and administrators to inflate their requests in the hope that a fraction would be approved, and the maldistribution of resources, the system had the very serious disadvantage of providing no mechanism for responding to legislative concerns about the high cost of education and more specific questions concerning productivity in various elements of the institution. Appropriations committees were being asked to increase the state's investment in higher education generally without the benefit of information concerning the specifics of what it was they were buying. In other words, the decisions addressed by trustees and legislators were essentially those of more for instruction, more for research, more for public service, more for support functions, with little concrete evidence of the return that could be expected from the additional investment.

Department chairmen, deans, directors, and other administrators soon learned that there was little relationship between the annual planning and budgeting exercises. Each department, college, and division was expected to have a five-year plan. Updated annually, the plan expressed goals of the operating unit, resources required to meet those goals, and other elements. While certain administrators attempted to incorporate these plans in their annual budget requests, the line-item orientation made it difficult to accomplish. Furthermore, resources required to implement specific plans at departmental, college, or division levels were not identified in the final legislative budget request. New programs were launched by using existing resources or by gaining additional resources from a pool of funds withheld from annual increments by the central administration and allocated on an ad hoc basis in response to representations made outside of the formal planning and budgeting exercises.

To summarize, this environment can be characterized as one in which resource-allocation and resource-attraction activities were related only indirectly. Resource-allocation decisions were not well coordinated and frequently reflected neither the needs of organizational units nor the opportunities available for growth and development. To be sure, substantial time and effort were devoted to the planning and budgeting functions, but the effort was not coordinated and did not result in an integrated program for managing the enterprise.

Program Design

Designed to fit the circumstances of a specific university functioning in the local environment described above, the system was developed with recognition of two more fundamental factors that complicate resource-allocation and revenue-attraction activities. These limitations, by no means unique to higher-education enterprises, contribute significantly to the need for a single, integrated planning and budgeting process.

First, like many other social-transformation systems, higher-education enterprises are involved in using resources to generate outputs that are difficult to measure. Our output is learning, both the development and dissemination of knowledge. Objective means for measuring these outputs and establishing standards that can be used in economic expressions of their value do not exist. In the absence of direct output measures or reasonable surrogates for them, questions of efficiency and effectiveness might remain unanswered, at least in the theoretical sense. Although a number of formula-based resource-attraction and resource-allocation systems incorporating surrogate output measures were considered for implementation, each was rejected because of inability to address the complexities of the institution.

Second, unlike other social systems producing outputs that are intangible and difficult to measure (insurance companies, for example), higher-education enterprises, particularly public colleges and universities, do not have the benefit of market action to provide a direct relationship between income and the outputs of the organization. When the service outputs of an organization account for less than 100 percent of its resources, however tangible or intangible the outputs may be, the efficiency with which resources are being employed to meet service objectives is immediately called into question. In the absence of the direct relationship between resource-allocation and resource-attraction activities provided by market mechanisms, complex universities are faced with the problem of matching a number of resource-attraction objectives with objectives associated with the teaching, research, and service functions of the enterprise. Without careful coordination, resource-attraction objectives may come in conflict with the objectives of these programs.

Lacking reasonable expectations that technologies could be developed to measure outputs in a way that would satisfy internal and external constituencies, and with the belief that conflicts between resource-attraction and resource-allocation objectives must be minimized, it was determined that planning and budgeting systems should simulate, to the extent possible, the controls offered by the interaction of buyers and sellers in the market place. This objective was to be achieved by providing a structure for decisionmaking at each level of university administration within which planned changes would be considered simultaneously, adjusted to reflect reasonable budgetary expectations, accepted or rejected to reflect the goals of each level of administrative (resource-allocation) authority, and ranked to reflect the relative importance of each program or activity. The desired result was to be a single, relatively simple yet well-integrated pattern of decisionmaking, reaching from operational levels of the university through deans, directors, and vice-presidents to the president of the university, and beyond to trustees and ultimately to the appropriations committees of the state legislature.

In addition to the global objective of installing an integrated planning and budgeting system throughout the university which was capable of guiding the allocation of existing resources and useful in the development of new resources, the system was designed to meet these operational objectives:

1. To provide each department or division of the university (each performance center recognized as a budgetary unit) with a resource base upon which longer-term planning and resource-allocation decisions could be made, without the prospect of erosion from inflation
2. To provide a mechanism for changing the resource base (on the margin) to accommodate increases or decreases in work load and to

support new programs or major changes in existing programs

3. To minimize the volume of paperwork required of deans, directors, department heads, and other administrators and to concentrate efforts on the development of plans representative of the problems and opportunities facing the organizational unit
4. To provide general understanding on the part of the president and other senior administrators of the plans and priorities of each of the units of the organization
5. To generate the basic program-centered information required for complete, accurate, and consistent representation of institutional priorities in annual budget requests submitted to the governing board and the state legislature

The system developed and implemented to meet these objectives simulates market mechanisms by encouraging simultaneous consideration of alternative resource-allocation patterns at each level of administration. Administrators must develop and rank by order of importance the investment opportunities available to the organizational unit(s) for which they are responsible. These decision packages reflect plans for which changes in the resource base will be required. Application of the process produces a system of decisions throughout the administrative hierarchy that ultimately yields a single, well-integrated, quantitative representation of the needs, opportunities, and priorities of the institution.

Description of the System

The concept of the *continuation budget* is fundamental to the planning and budgeting system described here. Representing the base support available to each operating unit and to each organizational collection of such units, the continuation budget of each major unit is changed in two ways: (1) by annual adjustments to maintain the existing base in the face of inflation in the prices of goods and services and (2) by deliberate action to increase or decrease support for the programs and activities of the unit.

Automatic Adjustments

The base budget of each unit is adjusted annually to accommodate inflation by applying price-adjustment factors to expenditure categories included in operating budgets. Those responsible for the affairs of such units can thus be assured that the real purchasing power of the financial resources available to them will be maintained.

Such price adjustments for all categories of expenditure except equipment are made by the university budget office, which applies standard inflators to each category. Departments and divisions are afforded an opportunity to request and justify adjustments to meet price increases unique to their operations. Glassware and chemicals in the chemistry department and utilities in the physical plant represent instances where such special requests might be justified. Funding for the acquisition of equipment to replace worn-out or obsolete items in the existing inventory is developed by a separate process in which each operating unit submits a priority ranking of requests.

Automatic adjustments in the base support for departmental, college, or division operations relieve administrative personnel of the necessity of explaining and justifying increases to meet price inflation and simplify the budgeting process by limiting and controlling the number of assumptions advanced regarding the future course of economic activity. The net effect is substantial reduction in the planning and budgeting work load imposed on administrators involved in the initial development and in the analysis of annual budget requests.

Planned Adjustments

All other adjustments in continuation budgets result from deliberate consideration of alternative courses of action available to those responsible for the organization. In other words, resource-allocation or reallocation decisions are actually made as marginal changes in adjusted continuation budgets. These combine to define an integrated system of resource-allocation and resource-attraction decisions on the part of personnel at each level of administration.

Originating in the department or division or at the next highest level of administration, all planned changes in the adjusted continuation budget are cast in *decision packages,* which are structured to provide information essential for the evaluation of the plan. While the basic format remains unchanged, separate documents are employed in representing adjustments required to accommodate changes in work load and adjustments associated with new programs or with substantial modifications in existing operations.

More difficult to develop than incremental packages reflecting requests for increased funding to meet growth in work load or to offer new or expanded programs, decrement packages reflect a reduction in service delivered by an operating unit or the elimination of programs or services. Developed through discussions and negotiations between administrators, these packages must frequently be forced by presenting a target level of reduction for each major unit. Experience to date has supported the merits of separating the planning for growth (the development of increment packages) and the planning for retrenchment (the development of decrement packages) and then merging the two in a single, integrated process of review and evaluation.

A decision-package format such as the one shown in figure 1 is employed to reflect basic changes in programs, explaining each new or changed service. A separate form is employed for each program or activity in which a change is envisaged. New or changed programs or activities are defined as those which are intended to render new, more efficient, or more beneficial services. Examples of planned changes to be included on this form include the following:

1. Addition of new programs, services, or activities
2. Transfer of existing programs, services, or activities from restricted-fund sources to the general fund
3. Expansion of existing programs, services, or activities beyond the level required by changes in demand
4. Changes that provide opportunities to enhance productivity through investment in new equipment or new procedures
5. Deletion of existing programs, services, or activities

Providing a format for the development of the type of information required for evaluations and review at each successive level of administration, the decision package has three principal parts: description of the plan, explanation and justification of the plan, and the increments or decrements in the continuation budget associated with its acceptance.

I. Brief Description. Operating managers are asked to provide a concise description of the planned activity, emphasizing the objective(s) to be attained and services to be provided to the principal constituencies of the university, to other campus units, or to the general public.

II. Explanation/Justification.

   A. Benefits. Stated in qualitative and, to the extent practicable, quantitative terms, this section must express the results that can be expected if the plan is approved. Examples include providing service to additional students, improved efficiency of operations, and benefits to the institution and to the state. Elements contributing to improvements in the quality of the learning experience or to productivity within the organization should be emphasized.

   B. Impact of Not Funding. Preparers are encouraged to identify the costs or losses that will be incurred if the plan is not accepted. They are asked to provide qualitative and quantitative representations of the extent to which existing programs will be affected and to describe any associated degradation in the quality of the learning experience or in the operating efficiency of the unit.

C. Alternatives. This section requires a statement of alternative means for accomplishing the objective(s) specified in the plan.

III. Incremental (Decremental) Costs. Changes in the continuation budget judged by the preparer to be required to meet the objectives of the plan are detailed by expenditure category. Costs are expressed in current dollars and adjusted by the budget office to reflect the effects of anticipated price changes.

The planning and budgeting process, which uses decision packages to represent the planned changes in the continuation budget, can be characterized as follows:

Step 1. Decision packages are prepared at the deparment level, ranked by order of importance to the department, and submitted to the dean or director.

Step 2. Decision packages from all units supervised by a dean or director are reviewed, revised in consultation with the preparer if necessary, and approved or rejected. Decision packages approved at this level may be identified for funding from resources reallocated from other programs or submitted for consideration at the next level of administration. Decision packages approved but not funded at this level are assigned a priority representative of their relative importance to the college or division and submitted to the next level of administration.

Step 3. The process is repeated at the vice-president/provost level. Remaining decision packages are submitted to the budget office, where they are recorded and organized by administrative unit and by program—instruction, organized research, public service, academic support, student services and administration, and institutional support.

Step 4. The vice-president for planning and budgeting reviews plans submitted by each major organizational unit and conducts a series of meetings with appropriate administrators (vice-presidents, deans, directors) for the purpose of developing a clear and complete understanding of plans and priorities. Such sessions typically lead to one or more of the following: (a) modifications in resources requested in decision packages; (b) substantive changes in descriptions or justifications, or both, to reflect the plan more accurately or more completely; (c) withdrawal of requests; (d) changes in priorities; (e) the decision to fund programs by reallocating existing resources by accepting decrement packages developed for the same or some other organizational unit.

Step 5. Decision packages remaining after step 4 are reassembled by organizational unit and program and presented to senior members of the administration and the president for study. These plans are subsequently reviewed and discussed at length by the president and the senior staff. Resulting in acceptance or rejection of plans, these sessions also provide the information base for final priority assignments for each program and for the university as a whole. Beyond yielding the specific elements of the annual request for the trustees and the state legislature, these sessions serve to identify problems and opportunities that can be addressed profitably during the coming year.

Step 6. A two-part budget request is submitted to the trustees: the *continuation budget,* reflecting resources required to maintain existing operations, and the *improvement budget,* which consists of decision packages ranked by order of institutional priority.

Step 7. Upon decision by the board of trustees, the budget is recast to reflect deletions or adjustments and is submitted for review and consideration by the executive and legislative branches of government. The request is explained, justified, and defended by the president, vice-president for planning and budgeting, and other senior administrative personnel. Budget analysts and appropriations-committee members are afforded opportunities to review programs and invited to assess carefully the relative merits of programs (described in decision packages) for which they are being asked to commit state resources.

Step 8. Upon completion of the legislative-appropriations process, the continuation budgets of each organizational unit are adjusted to reflect amounts authorized to meet price changes and to incorporate changes resulting from the allocation of new resources or the reallocation of existing resources based on the planning and budgeting process.

Conclusion

Implemented with considerable success but yet to reach its full potential for providing the desired integration of the planning and budgeting functions, the system simulates market conditions by requiring a series of confrontations between those responsible for attracting resources and those having the authority to allocate resources. Potential investment alternatives are evaluated and negotiated at each level of administration. All the known investment alternatives are considered simultaneously and ranked by order of their importance to the enterprise.

Experience supports the contention that the process of providing continuity of funding through the adjusted base budget and making marginal changes through the decision-package approach encourages planning at each level of administration. Specific advantages offered by the approach include the following:

1. Decision packages describe the full resource commitment associated with each planned modification in programs or activities. By describing the full increment or decrement in each expenditure category, the system controls resource-allocation activities and avoids problems that develop when only a fraction of the resources associated with the program are authorized.
2. By providing a clear understanding of priorities at each level of the organization, the system facilitates assessments of administrators; that is, department chairmen, deans, directors, and other administrators can be evaluated on the basis of the priorities that they establish.
3. By producing a single, consistent representation of institutional priorities, the system provides the structure for annual budget discussions with the governing board and legislative committees. Allocation decisions made at these levels are concentrated on specific programs. Decision-makers know what investments they are making and, of equal or greater importance, they know the investments that are not being made.
4. Finally, the system provides the framework for objective decision-making activities at each level at which resource-allocation activities occur. The results of these decisions are identified easily and can be combined to provide a history of resource-allocation decisions.

Experience to date has produced no glaring deficiencies in the system. To be sure, certain participants evidence considerable discomfort with the requirements that priorities be established and communicated to superior and subordinate administrators. While they view this feature as a weakness, it is a critically important element of the planning and budgeting system. The system can, of course, have the potential for limiting management's ability to respond to unusual opportunities. Problems can develop when the governing board and the legislature have approved a program and resources are directed to different programs, perhaps because of a change in priorities or the development of a totally new opportunity. Difficulties of this type have not been experienced, because all concerned are informed that such conditions may arise and that no more than 10 percent (an arbitrary fraction) of the resources authorized for decision packages approved in any year would be diverted to other applications.

Expectations for the system have been met and in certain instances surpassed. It provides the integration of planning and budgeting decisions required for the management of existing resources while simultaneously producing information essential for developing, explaining, and defending opportunities for increasing the investment in the various programs of the institution.

2.

Relationship of Program Review and Evaluation to Academic Planning and Budgeting

Summary of Forum Discussions

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This section summarizes the forum discussions on program review and evaluation and what was learned from those discussions. Implications are drawn for the practice of program review and evaluation.

Diversity of Existing Practices

The variation among institutions and agencies that practice program review and evaluation was a recurring topic in the forum discussions. Some institutions have elaborate, well-defined procedures; others have not refined their procedures. Most institutions review and evaluate their academic programs for a variety of purposes. These purposes can conflict and compete for the attention of faculty and administrators.

The multiple purposes for which program review and evaluation are undertaken contribute to the diversity of existing practice. One major purpose is *improvement*. Program improvement can take many forms. Among them are accurately assessing program needs (of the institution, students, community) and making strategic choices about priority needs, clarifying program goals and assessing outcomes that meet priority needs, and selecting program activities and instructional strategies that will most likely achieve the goals. Improving organizational support for program activities, developing more effective communication and decisionmaking processes, and better utilizing resources (human, financial, physical) to realize program goals are also facets of program improvement. A second purpose for program review and evaluation is to *eliminate unnecessary program duplication*. Programs may serve the same clientele, hold the same goals, or engage in the same activities. By seeking to reduce or eliminate program duplication, the administrator is implying that equal or better results can be obtained with fewer resources. A third purpose is to *differentiate among programs* in one institution or among similar programs in several institutions. Not to be confused with eliminating program duplication, differentiation stresses developing distinct and distinguished programs. A fourth purpose is *reallocation of resources* among existing programs. Given fixed or diminishing resources, choices must be made based on the relevancy and scale of existing programs for accomplishing priority needs. Thus *reallocated resources* is an operational statement of strategic choices. A fifth purpose is *accreditation*. Usually involving some form of self-study and outside peer review, accreditation is directed at assuring that a program meets some minimal standards of quality. A sixth reason is *program expansion*. While the preceding purposes all refer to existing programs, this purpose is directed at new programs proposed for funding. Review and evaluation of new programs compete for attention with the review and evaluation of existing programs.

A second factor contributing to diversity in the practice of program review and evaluation is the level at which the activity is initiated and coordinated. The impetus for program review and evaluation may come from national professional associations, regional accrediting bodies, state agencies, systems offices, or institutions. Within the institution, the activity may be coordinated at the department level, school or division level, or broader institutional level.

A third source of diversity is the mix of participants in the process. Depending on their purpose and scope, program review and evaluation may include students, faculty, department chairmen, deans, directors, administrative staff, chief academic officers, chief business officers, chief executives, trustees, systems-office staff, institutional researchers, state-agency personnel, regional accrediting association personnel, external peer-review groups, national professional association personnel, and representatives of clientele groups. The issue of who should be responsible for program review and evaluation cannot be answered independently of the purpose for which it will be used and the individual's level of participation.

A fourth source of diversity is the organization context. Not only do institutions vary by control (public, private) and type (two year, four year, university), but they also vary by such characteristics as organizational history, mission, structure, clientele, decisionmaking processes, and resources. Each of these variables influence, to some extent, the nature of program review and evaluation activities. Likewise, the variables influence the extent to which program review and evaluation are linked to planning and budgeting.

These four sources of diversity—purposes, level of initiation and coordination, mix of participants, and organizational context—have implications for the practice of program review and evaluation. In short, it is difficult to *describe* one process that fits all institutions. Likewise, it is not reasonable to *prescribe* procedures that are desirable for all program-review and evaluation activities. If a useful model is to be developed, it must have the characteristic of flexibility, that is, adaptability to the various sources of diversity in organizational settings.

Definitional Issues

Given the diversity of existing practices, one can expect confusion about the meaning of program review and evaluation. Part of the confusion stems from the lack of standard terminology. Without a context, one cannot communicate effectively about programs, program review, or program evaluation.

The term *program* generally refers to a set of activities that have a common goal or objective. However, some define the term to include resources or organizational units. For budgeting purposes, it may be necessary to distinguish among programs, resources, and organizational units, such as departments or schools, as well as between academic and nonacademic (support) programs or between degree and nondegree programs. If the term *program* is to be used meaningfully, it must be clearly defined within a particular context.

Likewise, the terms program *review* and program *evaluation* need clarification. Are *review* and *evaluation* synonymous? Do they mean something different from the term *audit*? Some use the term *audit* to mean the identification of programs that will be reviewed. Others use the term to mean an accounting of program costs or outcomes, or both. *Review* may imply a program description or summary, or alternatively it may imply that judgments are being rendered about the value of a program. Similarly, program evaluations may include both descriptive and judgmental aspects. Regardless of how these terms are used in specific contexts, they generally refer to a process by which programs are selected for review, described according to some guidelines, and judged by relative or absolute standards. The lack of standard definitions for program review and evaluation suggests caution in assuming the meaning of these terms to specific audiences.

Emphasis on Understanding

Given the diversity of existing practices and the lack of clear or consensus definitions, the widespread need for improved understanding of program review and evaluation is generally recognized. Among the topics that will influence this improved understanding are purposes of program review and evaluation, associated problems and costs, realistic expectations about their results, terminology issues, and variables likely to influence their practice. These topics suggest the need for instructional tools that can help practitioners gain a better understanding of the potential and pitfalls of program review and evaluation.

Criteria to Guide Practice

Three sets of criteria could help guide the practice of program review and evaluation. One set includes those used for selecting programs for review. Among these criteria are a calendar of periodic reviews of all programs, the anticipated retirement or departure of key faculty members in a given program, a regularly scheduled visit by an accreditation team, or ad hoc recommendations from statewide, systemwide, or institutional program-related task forces. A second set of criteria includes those used for *describing* the program selected for review. Among these are the relationship of the program to system or institutional missions, or both, the relationship of the program to other institutional programs, the quality of the program, societal need and student demand for the program, outputs and impacts of the program, and costs and sources of financing the program. A third set includes those for *judging* the value of a program. These could include comparative per-student costs with other programs, trend data on the enrollment level for the program, percentage of financial support supplied to the program through tuition and fees, relative outputs (such as degrees awarded) compared with other programs, and placement rates for students associated with the program. These criteria would help to focus work on various aspects of the review and evaluation process.

Supportive Information

Criteria to guide the process of program review and evaluation also would facilitate developing and using supportive information. In addition to criteria such as those mentioned above, the usefulness of information will be affected by the specific contexts in which program review and evaluation occur. Criteria provide the focus for useful information; the users of these criteria and the organizations in which they are used provide the context for useful information. Useful information, therefore, is a necessary but not sufficient ingredient to support program review and evaluation.

Eight major categories of information have been proposed as useful for program review and evaluation.[2] These are:

- Learners—the target audiences and participants for a given program, including currently enrolled students, former students, and potential (not enrolled) students
- Providers—the institutions, organizations, and individuals that offer a given program

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[2] These categories of information were developed in a project funded by the National Center for Education Statistics (NCES) and carried out by the National Center for Higher Education Management Systems. A detailed description of each major category can be found in John F. Putnam and G. Roger Sell, *A Handbook of Terminology for Classifying and Describing the Learning Activities of Adults* (Washington, D.C.: NCES, forthcoming).

- Communities—the geographical locations and special-interest groups (potentially) served by a given program
- Purposes/Outcomes—the goals of a given program and the consequences (outcomes, impacts) that result from it
- Methods—the processes and techniques for organizing a given program
- Content—the substance (subject matter, discipline) of knowledge, skills, and activities that is studied or applied in a given program
- Resources—the human, financial, physical, time, and informational assets of a given program
- Activities—the instruction, research, public-service, or administrative tasks by which a program is executed

These eight categories of information, when considered with the criteria and contexts for program review and evaluation, provide a basis for developing a supportive information system. Moreover, using a computer facility, software can be developed to perform routine analyses of raw data. The transformation of raw data into useful information, however, requires interpretation. Such data interpretation may require training for faculty, administrators, and others.

Program Review and Evaluation to Integrate Planning and Budgeting

On the one hand, program review and evaluation can help establish both the perspectives for and components of planning. If they include attention to both existing and new programs, they provide a basis for understanding the past, current, and prospective organized activities of an institution. While an institution is more than the sum of its programs, an in-depth study of those programs can test the congruence between institutional and program goals as well as between institutional structure, processes, and resources and program structure, processes, and resources. Furthermore, if program review and evaluation include participants from strategic vantage points both within and outside an institution, the institution's overall planning effort likely will be improved.

On the other hand, budgeting also can be improved through program review and evaluation. When programs are emphasized in the budgeting process, the budget becomes less an unspecified grant and more a performance expectation. Ultimately, resource decisions (both those about programs and within programs) will determine the success of an institution. Program review and evaluation can contribute useful information and understanding that support resource decisions, their evolution, and their implementation.

Finally, program review and evaluation can provide a link between planning and budgeting. Programs themselves can serve as a conduit between planning and budgeting issues, between strategic choices and resource allocations. In addition, program review and evaluation can bring together information for understanding the relationships among needs, goals, activities, organizational structures, processes, and resources.

The Role of Program Review in Academic and Fiscal Planning

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The Many Meanings of Program Review

During the last three decades, most universities became substantially larger and more complex. They also learned to depend on growth for improving current activities and for developing new directions. Now that the period of growth in size and resources has come to an end, improvement and change must once again come through choice. Moreover, institutions of higher education are also experiencing a period in which knowledge and the ways of discovering, organizing, and transmitting knowledge are increasing significantly. This has generated additional need for an orderly response. Faced with these challenges, universities have sought to construct procedures for the systematic gathering of information about their programs, for developing understanding from that information, and for translating understanding into action.

This period of growth was also a time of increasing public support and, along with the dollars, increasing public regulation. More statewide boards came into being, and public institutions were gathered into systems to facilitate coordination. The tasks of quantitative accountability, public justification, and evaluation and maintenance of quality took on new significance (Olscamp 1978). The words *program review* began to be heard more frequently, but with varying meanings depending on whether they were used to describe internal institutional efforts to change and improve or to describe externally sponsored efforts to confront program proliferation. The words have also referred, in different settings, either to decisions regarding approval of proposed programs or to decisions regarding continuation of existing programs.

The confusion about the meaning of program review has other roots in history. Faculty members are accustomed to associating the term with the often feckless studies of graduate programs conducted by graduate colleges. Clark (1977) has summarized various purposes and perceptions. At the same time, in colleges of medicine, review usually has meant departmental review and has been viewed either primarily or secondarily as an evaluation of the chairman (Smythe et al. 1978). *Program review* still means different things to different people. In this chapter, we will explore briefly the practice of externally sponsored program review and then turn to a model for internal, formative review, with particular emphasis on matters of process, on secondary effects, and on the use of program review in academic and financial decisions.

Review by External Agencies

When the conduct of program review or its driving force is external to the institution, the motivation has often been public concern about the efficiency of higher education. The oft-cited New York City taxicab driver with the Ph.D. in history has never been positively identified, but his plight has spawned an evaluation industry which has provided employment for a legion of Ph.D.'s and Ed.D.'s. Yes, there probably are too many doctoral programs in the state of New York and in the nation as a whole. No, a department without a Ph.D. program need not live in shame. The grasping for status of emerging institutions—without sufficient attention to program quality or societal need—has done much to erode public confidence in higher education. This has frequently led to external control, and *program review* has often been among the procedures used to enforce that control. Within this general rubric lie three major streams: state-level performance budgeting, legislative program audit, and statewide review.

Peterson et al. (1977) have described performance-budgeting schemes employed in Hawaii and Washington. They proposed the following definition:

> *Performance budgeting* is a *budgetary structure* that focuses on activities and functions (program structure) which produce results (outcomes or impacts) and for which resources (inputs) are used *and a budgetary process* that attempts to allocate resources on the basis of anticipated or past results. [P. 2]

In both states, performance budgeting was initiated by the executive branch. The authors reported that similar attempts to use performance indicators in the budgetary process were under way in 10 other states. In many cases, however, it would be an overstatement to equate these performance-budgeting efforts with formal program review. (In some of these states, there is a separate mechanism for evaluating existing or proposed programs.) The quantitative (and sometimes qualitative) outcome and impact measures used in performance budgeting tend toward excessive simplicity. The struggle to identify valid performance proxies becomes a major preoccupation. Little attention is paid to individual programs, to the relationships among programs, or to the role of the programs in the individual institution. While these approaches have sometimes provided a rationalized starting point for appropriation proposals, they have not eliminated local political pressures in the legislative process. Nor have they, in our opinion, been dominant factors within the individual institutions. In this respect, they resemble the larger set represented by states with some form of formula funding (Linhart and Yeager 1978).

Berdahl's description of legislatively mandated performance audits in Wisconsin and Virginia (1977) points out the limitations, which to date have characterized efforts to focus attention, in the legislative role, on the quality of outcomes rather than on the quantity of inputs. It is not surprising that these audits have not dealt with the deeply substantive issues involving outcomes; universities themselves have rarely (some would say never) done so successfully. The greater mischief has arisen from the willingness of the "interdisciplinary" legislative-audit staff to make judgments based on readily quantifiable but incomplete and sometimes irrelevant data. So far, for the most part, such activities have stopped short of intruding seriously on institutional prerogatives. The key has been, and will continue to be, a willingness by the institutions to become genuinely involved in the audit process. Legislative program audit has been expensive, both in direct costs to the lawmakers and in the cost of involvement by the institutions. To date, the benefits are unclear.

Program reviews by the statewide coordinating agencies have been more widely reported. Barak (1977) has described processes employed in Florida and New York. He cites the primary purpose of such reviews as accountability and "efficient use of state resources of an institution, program, or segment of postsecondary education vis-a-vis its peers" (p. 72). While both input and output measures are often employed and involve parameters like need, cost, productivity, and quality, such reviews have usually begun with consternation over the proliferation of Ph.D. programs—a worthy concern—and have been triggered by arbitrary thresholds of degree-production rates—an unworthy measure. Over the years, however, the methods have grown in sophistication.

The program reviews of the State University System of Florida provide an interesting example. The system comprises nine universities, six of which were added between 1960 and 1972 in response to the fact that major population growth was occurring in the southern part of the state, while the traditional universities were in the north. Subsequently faced with a decline in state revenues, declining enrollments in certain programs, pressure for new high-cost undergraduate and graduate programs, and a slowing of federal support, a series of program reviews was begun in 1975-76.

Reviews are conducted in discipline-related clusters and include both undergraduate and graduate components. The first few reviews included external degree programs, education, engineering, nursing, foreign languages and linguistics, oceanography, and psychology. Basic quantitative and descriptive data form a starting point for two-day visits to each campus by a team of consultants from outside of Florida for each discipline. The universities have an opportunity to respond to the final report submitted by the consultants prior to the consideration by the Board of Regents of a staff analysis of that report.

Only a handful of existing activities have been curtailed as a consequence of these reviews. However, the reviews have been successful in curbing additional proliferation of degree programs, in controlling growth, in encouraging cooperation between nearby institutions, and in strengthening confidence of legislators in the management of the State University System. At the same time, many faculty members—even those in the established institutions whose turf has been protected—have viewed the reviews as discomforting interference with traditional faculty prerogatives.

In New York, the State Education Department (SED) reviews provide another illustration. The initial round of reviews of doctoral programs in history and chemistry resulted in a decision to deregister specific programs. The decision was challenged in the courts, and the jurisdiction of the SED mechanism was subsequently upheld. Since that time, the initial outrage of the institutions has given way to a more constructive posture. While one can still point to Kafkaesque responses to SED findings—unmistakable distortion of academic priorities in an effort to remove "deficiencies"—some institutional administrators will now admit, albeit privately, that the external reviews have, for the most part, been accurate and, in the case of deregistration recommendations, have often counseled valid action which they alone could not have accomplished.

Although the final count is not yet in with regard to state-level review, it is useful to note that (1) some mindless proliferation has been stemmed, (2) internal program-review schemes have been encouraged, and (3) realism and broader statewide perspective have been fostered. However, (1) the methods employed to date seem (especially to faculty) to be designed to confront programs rather than to improve them; (2) *program* is often defined in limited degree or curricular terms; and (3) being viewed as an outside threat, such schemes have tended to freeze faculty in pursuit of accustomed goals rather than to mobilize them toward constructive change.

We would not wish to leave the impression that we believe that institutions of higher education should not be publicly accountable for the outcomes of their activities or that issues of efficiency have no place. Rather, we conclude that external program-review schemes have not been of unqualified benefit to these valid public concerns. The difficulty in defining, evaluating, and publicly defending educational outcomes must be granted,[1] but we would not wish to deter anyone from continuing to try.

A Model for Internal Program Review

For most of the remainder of this paper, we will use the term *program review* to mean an internal, searching, comprehensive evaluation of an existing or proposed program. As a process internal to the institution, program review is often connected with evaluation and planning (Arns and Poland 1979). However, it is probably more accurate to observe that program review may result—by developing better understanding, by creating environmental change, and by altering relationships and communication—in a variety of short- and long-range decisions.

The question of whether or not an institution should undertake systematic evaluation of its program has been addressed by Heydinger (1978). We will not repeat his arguments here. Each institution must make its own decision concerning whether or not it will review programs, and if so, why and how. Mims (1978) has set forth several factors which should be considered in designing and implementing a review process. Various individual schemes have been described.[2] The methods employed depend on factors such as institutional size, complexity, history, governance traditions, and the like.

Our model was derived primarily from a study (Poland and Arns 1979, forthcoming) of program-review methods at the Universities of Illinois, Michigan, and Minnesota, after recognition of the incompleteness of planning processes at Ohio State University and general dissatisfaction with the results of graduate-program reviews. The first reviews at Ohio State University, according to this new model, began early in 1976. The same model, with minor revisions, was implemented at the University of Vermont late in 1977.

At the outset, it was made clear that the purpose was *program improvement,* nothing more and nothing less. We adopted quality, value, and the effective use of resources as the fundamental issues to be addressed. These we defined as follows:

> *Value.* Assessment of the nature, importance, and responsiveness of a program's goals as they relate to the needs and goals of students, of the university, and of society

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[1] See, for example, Howard R. Bowen, "Outcome Data and Educational Decision Making," in *Appraising Information Needs of Decision Makers,* ed. Carl R. Adams, New Directions for Institutional Research no. 15, (San Francisco: Jossey-Bass, 1977); and Sidney S. Micek, "Introducing Higher Education Outcome Information into the State Planning and Budgeting Process," paper presented at the Invitational Seminar on "Innovation, Outcomes, and the State Budget Process," sponsored by the Educational Commission of the States et al., San Diego, 22 March 1976.

[2] See, for example, Richard R. Perry, "Goal-Oriented Research: An Institution's Paradigm," in *Using Goals in Research and Planning,* ed. Robert H. Fenske, New Directions for Institutional Research, no. 19 (San Francisco: Jossey-Bass, 1978); and J. Robert Russo, David G. Brown, and Jane G. Rothweiler, "A Model for Internal Program Review," *College and University* 52 (Spring 1977): 288-98.

Quality. Assessment of the extent to which a program achieves its goals and of its strengths, weaknesses, effectiveness, and efficiency

Effective Use of Resources. Assessment of the appropriateness of the allocation and organization of human, fiscal, physical, and informational resources to and within the program

The following diagram summarizes—in the form of a logical progression of simple queries—the essential questions about programs and their components for which answers are needed in this particular program-review scheme.

Description		**Evaluation**
Program	Who are you?	
Activities	What do you do?	
Resources	How much does it cost?	
Goals	Why do you do what you do? How do you know when you have done it?	
Goals vs. activities	How does what you do relate to why you do it?	Goals vs. activities
	What difference does it make whether you do it or not?	Value
	How well do you do it? How can you do it better?	Quality
	How appropriate is the allocation of resources to and within the program?	Effective use of resources

There are two problems with such an array. First, providing answers to such questions usually does not follow an orderly, linear progression. For example, an understanding of the program's goals may well grow or change iteratively as a consequence of the review process. Second, descriptive questions may command too much attention. While description forms a necessary background for program review, the emphasis should be on evaluation. Evaluation begins with the comparison between goals and activities—in asking "How *well* does what you do relate to why you do it?"

The major features of the review process are as follows:

1. Flexibility. There is no fixed protocol which applies to each review, no standard forms, no irreducible core of information which must be gathered. Recognizing that no two programs are alike and that a university represents a highly diverse set of academic subcultures, we have sought to tailor individual reviews to the nature of the program.
2. Program Definition. In recognition of the lack of congruence between programs and organizational units, we have avoided a rigid definition of *program*. While entire departments are often the "program," we have also had reviews involving two or three related departments in different colleges (such as biochemistry at Ohio State University and microbiology at the University of Vermont). We have reviewed programs involving entire colleges. We have deliberately avoided the review of individual graduate-degree curricula, because they usually represent only pieces of a program.
3. Self-Study. We have encouraged a form of self-study which is self-generative rather than reactive and in which the emphasis is not on mere collection but on what the data mean. The purposes of the self-study are (1) to increase the consciousness of program participants concerning what they are doing and what they ought to be doing and (2) to provide a basis for later steps in the process by communicating, via a written report, facts about the program and about the perceptions of its participants.
4. Parties to the Review. We have insisted that the process of review includes not only those within the program but all who are in some way responsible for it. A typical review of a department involves four parties: the program representative, the college dean, the chief academic officer of the university, and the graduate dean. Each party can ask questions or state propositions. Each has a stake in the outcome of the review. Parties can expect to find things they can improve alone. Each will probably find areas in which the help of one or more of the others is needed in order to bring about improvement.
5. Openness. We have opted for openness in the conduct of the reviews. Each of the parties is expected to be candid in communicating with the other parties, committees, and external reviewers. All reports are available to all of the parties.
6. Feedback. We have encouraged communication among the parties at all times and have required feedback at each stage. We seek to avoid a linear process in which orders to review come down from on high, followed by the upward flow of a report, never to be heard from again. We want a process in which it will be difficult for any party to refuse

action at the end because of a mental reservation formed early on.

7. External Review. We have often invited a site visit by experts from other universities to assess program strengths and weaknesses and to give advice on alternative courses of action. Usually this follows the self-study stage, but that is not a rule, and external review may not be a part of all reviews.
8. Peer Coordination. The conduct of each review is the responsibility of a committee of senior faculty from the university but outside of the program being reviewed. Each review has its own Coordinating Committee. Its members (1) work with the Self-Study Committee to outline the self-study issues, (2) work with all parties toward a mutually acceptable design for the external review, (3) design additional studies when needed to reconcile differences between the self-study report and the report of the external review, (4) seek to foster open communication and feedback throughout, and (5) see that the process is brought to closure and that changes are implemented. They are responsible for the quality of the review but are expected to refrain from making their own judgments concerning the quality of the program.
9. Closure. The final step in the process is the development of a plan of action, called a Memorandum of Understanding, which sets forth the agreement of all parties with respect to what will be done over a given period, typically five years, who will do it, and how it will be judged to be completed. The Memorandum of Understanding serves as a basis for checking subsequent progress and is updated and monitored annually by the Coordinating Committee.

Integrating Academic and Fiscal Planning

It is quite common to encounter planning processes in universities which project resource requirements, fund sources, enrollments, and the like for a one- to three-year period to establish the basis for daily decisions and to predict trends. Processes of this type, which result in what we call a *term plan,* are characteristically incremental. They generally take existing programmatic features of the institution as given and are concerned with how much (money, responsibilities, for example) shall be added to or subtracted from an existing configuration.

Such term-planning processes are ordinarily carried out with reference to a background of institutional mission, goals, and planning assumptions intended as a framework with which the goals and activities of individual programs are to be compared. This second prototypical feature of university planning, which we call the *institutional context,* is intended as the focus from and to which planning proceeds.

Both of these features of planning will be strengthened by an effective program-review process. For example, once a review has been finished the term plan will flow from the Memorandum of Understanding. The annual budget becomes less an unspecified grant and involves performance expectations and explicit objectives as well as dollars.

The array of mission, goals, and planning assumptions, which we have called the *institutional context,* should also be altered by program review. This does not imply that an institution's goals should be a simple aggregate of individual program goals. There must be an institutional focus, but that focus—and the ways in which it is reflected in individual programs—should be dynamic. By facilitating in-depth study, program review can provide a test of congruence between institutional goals, program goals, and individual goals. To the extent that it provides a mechanism for broad participation in the formulation and alteration of these goals, program review can assist in the strengthening of purpose and in the development of greater congruence among the various views of the institution.

As the foregoing two paragraphs suggest, program review can extend the value of term planning and improve the institutional context. It can also provide a link between these activities. To the extent that program review is attentive to relations between programs and program elements, it can establish a broader view of planning. It can, in addition, bring together, in a single vehicle, issues of academic, fiscal, personnel, organizational, and facilities planning.

The process of determining priorities for resource-allocation decisions links the information derived from program review with the term plan and with the institutional context through the issues of value and quality. As an illustration, consider the reallocation of resources among existing programs within the institution. Once the criteria for determining value (centrality) have been defined and judgments have been made through review regarding the value of individual programs, resource decisions ought to favor programs of high value or assist programs to improve their value. At the same time, these decisions should also be guided by assessments of quality. Our shorthand way of illustrating these decisions is shown in figure 1. Other schemes have been reported (Shirley and Volkwein 1978; Lawless et al. 1978).

Clearly, figure 1 represents only a starting point for assisting a nearly endless series of short-term and long-term decisions which must be made with regard to programs and components of programs. There are many complicating factors. For example, the rate at which resources can be reallocated out of sector 4 is usually smaller than the valid needs of programs in sectors 1 and 2. Also, strengthening programs in sectors 1 and 2 will usually be carried out simultaneously. While such reallocation can be a useful outcome of program review, the amount of reallocation *between* programs which results from internal review is usually not sufficient in the short term to justify the cost of the reviews. However, as we shall argue later, long-term benefits, some resource-related and some not, can provide such justification. Moreover, redirection of resources *within* a program can be of substantial benefit; such a redirection is also assisted by the value and quality judgments described.

There are three additional points which bear on the use of program review in integrating academic and fiscal planning. First, there must be agreement on the information which will be used to judge a program and agreement on the criteria upon which these judgments will turn. The nature of the information appropriate to an evaluation will vary significantly from program to program. Ordinarily, information about program inputs, which is basically descriptive, will be plentiful. Information about the environment in which the program functions will be readily available but uncertain. Information about program outcomes, which is necessary for evaluation, is considerably more difficult to obtain. Similarly, comparisons are inevitable in studying both inputs and outcomes, but valid comparative information, either in terms of similar programs at the same institution or peer programs at other institutions, is also difficult to acquire. To avoid quibbling, the various parties to the review must be together at each stage on quality and quantity of the information which will be used to form judgments.

The criteria for assessing value and quality should be understood in advance, and the same statement of criteria should be applicable to all programs in the institution. Most faculty and administrators find no difficulty in making judgments of quality. Judgments of value, however, are another matter, probably because few have had to make choices on this basis. Thus

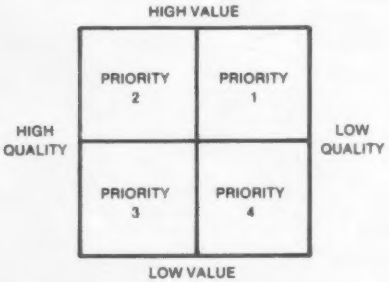

Fig. 1. Internal reallocation of resources may be based, as a first approximation, on measures of value (centrality) and quality derived from program-review judgments. A program or program component is judged to be in one of four quadrants based on relative value and quality. Priority 1: Build the quality of programs which are vital to the institution. Then (Priority 2) foster peaks of excellence on this broad central plain. Meanwhile (Priority 3), strive to maintain areas through external funding which are good but not central; and (Priority 4) reallocate resources from the low-low sector to Priority 1 and 2 programs or program components.

the criteria for assessment of value should be explicit, detailed, and agreed upon at the outset. The University of Vermont's statement of criteria for determination of value is eight paragraphs in length and asserts that it is not sufficient for a program to be of value solely in a single feature (for example, only in terms of immediate student demand). It separately describes the assessment of value to the University, to students, to the state, the region, and the nation. This degree of detail has been helpful, but selective perception and the strength of tradition make value judgments the most difficult faced in program review.

Atkin (1978) reported an example of the effect of increased attention to value judgments as a consequence of program review. He describes the questioning of appropriateness (value) of certain professional programs to the University of Illinois despite high-quality ratings by professional accreditors. These programs had been taken for granted because they were good. Program review, however, because it attended to both quality and value, led to different conclusions.

A second problem may arise from the difficulty of integrating program-review results over time. If programs are revised over a five-year cycle, for example, it may be difficult to determine priorities in an evenhanded manner unless conditions remain relatively stable or environmental changes are predicted with unerring accuracy. As we shall note later, the use of a Memorandum of Understanding may help to stabilize decisions. It does now, however, ensure that decisions made about program X in year 1 of a cycle will be constrained in the same way as decisions about program Y in year 4. This could be a serious shortcoming if we expect large changes in the institutional status or support of programs as a result of review. However, to the extent that the larger effects are within the program, questions of equity over time tend to be unimportant.

Our third point stems from a similar consideration. Given several reviews coming to fruition at about the same time, how are choices to be made among the several results? Each will yield assessments of value and quality in nonquantitative terms. Who weighs and ranks the results? The answer depends on the program under review. A dean may be the key figure for some of the reviews. In more cases, the chief academic officer may play the pivotal integrating role. Whenever a single officer is thus involved, there is danger that the decisions will be personality dependent and prove to be ephemeral if personnel changes take place. Here again, some protection may be sought in the enduring qualities of the faculty, and in a written record of the final conclusions reached.

Process Considerations and Secondary Effects

Poulton (1978) has observed that the primary impacts of program review are seldom dramatic and has counseled greater attention to windfall and secondary benefits. We are similarly convinced that the impact of program review cannot be assessed adequately solely in terms of the issues which are addressed. We have found that the *way* in which review is conducted is at least as important. Our experience with the model described in the previous section illustrates the extent to which results depend upon process and the kinds of secondary effects that can occur.

Our purpose, program improvement, provides a simple example. Our observation of program review at other institutions revealed that an announced agenda which could be interpreted as threatening, such as reallocation or program elimination, understandably led to a defensiveness which severely hindered the process. We have not always been able at the outset to convince faculty that our hearts are pure. However, by keeping program improvement as a central purpose, we have found a greater degree of openness and rationality than appears to have occurred elsewhere under conditions of threat. We have not sought to avoid resource issues. Our guidelines explicitly state that it is precisely because of our reduced fiscal flexibility that we need more complete understanding to make wise budgetary decisions. Faculty members are aware that higher education is in a period of austerity, and they are grateful for a rational forum in which to make their case. When the purpose is upbeat and the rules are fair, they participate willingly, although they recognize that improvement may not involve new resources.

There is nothing in the purpose of program review or in the issues addressed which ensures that the participants will communicate effectively, probe deeply, or apply the same standards of objectivity and rationality which they bring to their own scholarship. Professors are strongly influenced by the investigative style of their discipline. Without wishing to reflect a stereotypic view, it is not totally without foundation to note that faced with a planning process, the mathematician will state a theorem and seek to prove it, the social scientist will conduct an opinion survey, and the physical scientist will attempt to design a controlled experiment. This extends as well to the language used. Sometimes the jargon of the discipline can prevent a self-study document from speaking clearly. An equally serious problem can arise because faculty members in self-studies may be uncomfortable with the freedom their review process provides. Previous experience with budgeting processes, long-range planning efforts, and accreditation visits has taught them to give only the information asked for and to give it in the numerical form that is usually desired. It is difficult for them to understand that *they* can pose and respond to *their own* questions and that we care about the *meaning* of data. Here, peers from other disciplines (in our case, the Coordinating Committee) in a critical (not judgmental) role, can make the crucial difference. They can help the Self-Study Committee to generate a report which can be understood by all parties to the review, which uses more than one approach to answer a question, and which pays full attention to linkages and relationships between programs and program aspects.

There is also a need for someone to be honest about the emperor's new clothes. At some point in each review, there are apt to be instances of unsupported assertion and unjustified extrapolation. There are also myths to be debunked. These need to be dealt with in a nonthreatening manner. In our model, the Coordinating Committee has often played this role.

There is yet more to be said on the topic of rationality. Each university is a complex human organization of considerable inertia which ought to be sensitive to the changing society in which it is embedded. However, like other organizations, a university, once formed, acquires a life of its own and may be slow to respond to changing conditions. From time to time, it is helpful to step back and examine the fundamental assumptions upon which the institution is based. We have found the inferential process illustrated in figure 2 a helpful way of representing the kind of thinking needed.

The starting point is a consideration of the environment. A variety of questions need to be faced at the outset: What are the needs of society? Which of these should this university seek to meet? What are the dominant economic, political, demographic, and ethical trends? What should be the role of this university and this program in responding to societal trends and in influencing the trends? What are the constraints? Answers to these questions of *strategy*—seeking to establish a sense of direction for each program—help to determine which features of the environment are relevant for goal setting.

The investigation of *goals* is a two-part process. The general outcomes which a university strives to achieve ordinarily involve abstract concepts such as knowledge, skills, creativity, discoveries, and benefits to society, which should be articulated but which defy quantification. Without denying that the most important outcomes may not be measurable, the second part

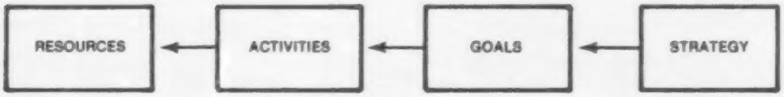

Fig. 2. The proper conduct of program review should involve an inferential process which begins with consideration of the changing environment and proceeds, after goal specification, to design of the activities necessary to reach the goals, and, finally, to a determination of the resources required to carry out these activities. The reasoning should proceed from right to left, but sometimes rational directionality can only be achieved after the path is traveled back and forth in both directions.

of goal specification involves determination of quantifiable surrogates for at least some of these outcomes. Examples of such surrogates are full-time-equivalent students taught, number of degrees awarded, publications, ratings, measures of student achievement, and measures of community impact—the purpose being identification of a spectrum of proxies that is sufficiently rich and complete to provide a starting point for discussions about goal achievement.

Continuing the inferential process from right to left, the next step is specification of the *activities* or tasks intended to produce the outcomes sought. Here questions of choice of technology must be faced (Arns and Poland 1979), that is, one must decide *how* to reach the goals. For example, if one of the goals is student learning, questions of instructional design are considered at this point—matters like class size, lecture versus seminar, course and curricular objectives, and the like.

The final step involves determination of the *resources* needed to carry out the activities. Under the general heading of resources, we include the dollars, people, space, support services, and information required.

Analyzing a program in this fashion runs counter to instinctive behavior which takes the current situation as a given and seeks to discover how that situation could be improved by additional resources. In the present resource-limited period, that approach will usually lead to frustration. Those involved in program review will find the outcomes of the process more fruitful if they strive to (1) take full account of changes in the environment; (2) identify and question the fundamental assumptions upon which the goals of the program are based; (3) question the choice of technology (such as instructional design, faculty-development schemes) through which the program carries out its tasks; and (4) avoid "left to right" incrementalism, by which we mean a frame of mind which assumes additional resources as a necessary condition for improvement. These are not easy tasks, but they are critical to deriving genuine benefit from review.

There are often historical perceptions of planning which need to be overcome. During the period of growth in the sixties, an individual faculty member or department could propose a program with little attention to anything beyond "academic concerns" and with the expectation that the administration would dutifully allocate the resources needed for implementation. Basic assumptions were seldom questioned. Constraints rarely played a critical role. These expectations persisted even after resources were no longer plentiful and, when nothing happened as a result of a planning exercise, planning itself was damned as being irrelevant to a university. On the one hand, administrators were unable and unwilling to respond to what they viewed as pie-in-the-sky proposals. On the other, faculty saw administrators come and go, and nothing seemed to happen as a result of planning processes. This impasse was partly a matter of perception—a contrast to the ease with which things had happened during the growth period—and partly a matter of reality stemming from the inappropriateness of the incremental nature of the decision processes which had evolved. If program review is genuine, as described in the foregoing paragraphs, and if there is a resolve to action at the end, this "we-they" frustration can be decreased. In our model, the Memorandum of Understanding provides a mechanism for stabilizing decisions. The concept has been especially helpful at the University of Vermont, where frequent administrative changes had led to a high level of faculty frustration. The Memorandum of Understanding is providing a means for restoring confidence in the benefits of rational planning.

There can be, for institutions, more general benefits which stem from the dissemination of understanding and the building of new relationships across the campus. Galbraith (1977) described working hypotheses concerning the development of such lateral relations. As an aid to decisionmaking, lateral relations tend to move the level of decisionmaking down to where the information resides rather than bringing the information up to decision points. These lateral relations, once developed, help to decentralize decisions without creating self-contained units. They tend to make a happier campus and to develop a sense of university community. In the long run, the building of lateral relations can be a very significant benefit of program review.

Ultimately resource decisions, both those applicable to programs and those effective within programs, will determine the success of a university. Such decisions cannot be made wisely without information, understanding, mutual trust, and a sense of stability. Program review, properly conducted, can contribute to each of these qualities. The most important outcome may well be the strengthening of confidence in decisions, their evolution, and their implementation. None of these benefits is inherent in the term *program review*. They all depend on the way it is done.

Universities are very special places for learning, where healthy people are transformed, not just in the way in which the institution seeks to transform them, but also in unexpected ways. If the university is doing its job well, both students *and* faculty are learning and being transformed. That condition requires an institution which is alive and responsive to changes in its environment. There was a time when new life could be continually infused through the regular addition of new resources. That time is a matter of history at most institutions. Vitality and improvement now depend on the judicious reallocation of current funds and the redirection of current energies. Due to the nature of the university as an organization, most of the potential for such change is decentralized. However, resources exist within each program which can be mobilized for program improvement and, of all resources, those internal to the program—faculty skills and faculty time, for example—

are most easily turned to new purposes. We believe that internal program review may be a key to such efforts.

Coda

We have taken a positive view toward internal program review in the preceding pages because we have found that it can play a beneficial part in the life of a university and that it is worth the effort if it is done right. However, there is another side that needs to be considered. First, substantive evaluation can be quite expensive. There are, for example, the travel expenses and honoraria of external visitors; the salaries of those charged with maintaining the process as part of their responsibilities (an associate vice-president, associate deans, institutional-studies staff); secretarial, duplicating, and telephone charges; and, the largest expense of all, the time of the faculty and administrators who are parties to the review. We estimate the average cost of a review via our model at $30,000, of which about 10 percent is direct expense which would not be incurred if we were not reviewing programs.

Second, while our model seems to have been successful and, we conclude, cost beneficial, it is not clear that these processes would be transferrable to many other institutions. The particulars appropriate to a given situation will depend upon factors such as institutional size and complexity, internal governance traditions, the nature of relationships with external governing or coordinating entities, the real or perceived level of support of the institution, history of faculty-administrator relations; and sophistication in the information system and in the use of information in decisions. These factors differ from institution to institution and change over time. If a program-review scheme is badly designed at the outset or if it fails to adjust to changing conditions, individual reviews will fail. The net effect can be increasing frustration and a decline in morale, confidence, and trust.

Given the cost and the potential risks, the decision to undertake a series of reviews should not be made lightly. Each institution which opts for program review must find its own ways to make it happen. It should be clear from the foregoing that we believe that the secondary effects—positive or negative—may be as important as the primary purposes or the issues addressed. Thus it is our conviction that attention to process and to secondary effects should be an important part of a decision concerning whether and how to implement a program-review system.

Our focus in discussing internal program review has been on the individual institution. Additional questions will arise when internal program review must function alongside or as part of externally sponsored review. Such a situation requires increased attention to secondary effects, to issues of process, and to the varying perceptions of the constituencies which have an interest in the reviews.

Finally, if the cost-benefit analysis of internal program review is as sensitively dependent upon process and secondary effects as we have asserted, it seems reasonable to assume that externally sponsored review would exhibit a similar dependency. Barak and Berdahl (1978) have provided a comprehensive account of state-level schemes for approval of proposed programs and for review of existing programs. They have analyzed major problems and have made several helpful recommendations. But it is of the very nature of higher education as a complex social entity that the secondary effects of such program review will play significant roles and that the full measure of cost and benefit can be but dimly seen. Moreover, since it can be expected to be more difficult to overcome a "we-they" dichotomy in such processes, benefits within the programs probably will be small. This would appear to argue for implementation of external program review with considerable caution and only under the most compelling of circumstances.

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Establishing Academic Program Priorities

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Colleges and universities today are faced with the difficult task of developing coherent strategies and priorities for academic program development. The causes of this need are many: shifting demographic trends, including the projected decline in the traditional college age population [11, 14, 26, 27, 28]; combinations of inflation and recession, which have driven college costs upward while straining available tax and other support dollars; reduction in support by private foundations (such as Danforth, Ford, and Woodrow Wilson) and by federal agencies (such as NSF), resulting in dramatic decreases in fellowships for graduate students [9, 27]; and widespread reports and predictions of employment difficulties faced by many graduates [35, 38]. On this latter point, Cartter predicted that as few as one doctorate in ten might find suitable academic employment in the 1980s, stating that "we have created a graduate education and research establishment in American universities that is 30 to 50 percent larger than we shall effectively use. . . . The readjustment . . .is bound to be painful" [14]. Although many educators question the legitimacy of colleges and universities being viewed as manpower training institutions, many citizens and legislators nevertheless share a widespread and growing concern about the costs of higher education and the effects of programmmatic proliferation. In this environment there is growing external pressure for accountability and retrenchment.

As evidence of this pressure, Sprenger and Schultz found that over two-thirds of four-year institutions surveyed had experienced faculty reductions in the period between 1971 and 1974 [33]. Moreover, the Berkeley Center survey of college and university presidents found that over 10 percent of the responding institutions expected that by 1980 a "radical

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change" would occur in institutional structure, including closure, merger, or consolidation [21]. Under the conditions of this "New Depression" it was perhaps predictable that authority would gravitate from department to campus administration, from campus to central system, and from system to state coordinating agency [5, 21].

New York State has the dubious distinction of being in the vanguard in accomplishing programmatic retrenchment. Recent attention has focused upon the deep cutbacks within CUNY [1]. But as early as 1971 the state's board of regents had imposed a two-year moratorium on any new doctoral programs and appointed a Commission on Doctoral Education, chaired by Robben W. Fleming, which recommended a systematic assessment of doctoral programs at both public and private universities [19]. Under these continuing reviews (conducted by the state education department and using panels of scholars in each field) all programs must meet rigorous standards of quality and need. This process has resulted in the closing of about thirty doctoral programs in ten fields. Other states such as Louisiana and Washington are adopting similar criteria and procedures [32, 37]. Program decisions apparently are being made increasingly on a system-wide and statewide basis but there is disagreement that this should be the case. The Carnegie Foundation, for example, urges institutions to act in their own behalf. The foundation believes that campuses have an obligation to adapt to new circumstances, "and not to place the burden on public authorities to bail them out—in fact, good faith institutional effort is a prior requirement for favorable public response" [12]. Further elaboration of the arguments favoring corrective campus action, as distinct from centralized state decision making, is presented by Hull [23].

The need for priority setting at the campus level has always existed, even during the golden 1960s when there was a seemingly unlimited supply of students and dollars gravitating to institutions of higher education. Rarely was the need recognized, however, and only with the realities of "steady-state" financing have institutions begun to address seriously the question of priorities. In many cases, this address has taken the form of hastily constituted committees, generally charged with identifying areas for potential budget cuts in order to reach predetermined, and often times externally mandated, dollar targets. The probability of rational choice among competing alternatives is low under such conditions, and the time pressures attendant to the process prevent full attention to the issues of long-term developmental priorities. Unless a development framework is established *first,* however, campus decisions on short-range program reductions may reflect less relevant, often quantitative, criteria which could just as easily be employed by a remote, central coordinating board.

How should an institution determine (*a*) the overall inventory of academic programs to be offered, and (*b*) the relative priorities to be placed on those programs? A general statement of mission provides a partial answer, particularly for those programs that are related to some geographical uniqueness or advantage, but there are numerous programs that can "fit" most institutional charters and also produce some benefits for students and society. Some help is obtained also from a statement of specific learning objectives in outcome-oriented terms, but many programs can contribute, in their own diverse ways, to the development of critical thinking and reasoning skills and other desired intellectual attributes. In short, although statements of mission and objectives are necessary conditions for solution of this problem, they are not *sufficient* conditions. Viable decisions on offerings and priorities must be made within the context of a long-range development framework.

This decision problem is a critical one for individual campuses, but the few articles that have appeared on the subject of program and personnel realignments have taken a statewide or system-wide focus, or have offered more procedural than conceptual assistance. Brown conceptualized a set of ten criteria for "pruning programs" and offered some useful procedure guidelines, but stopped short of a larger framework for setting developmental priorities [10]. The policies discussed by Sprenger and Schultz [33] and by the AAUP [2] provide practical assistance to campuses facing reductions, but little intellectual rationale. The recent case study of Mankato State University [3] provides some procedural advice and coping strategies but fails to set forth generalizable criteria for establishing priorities and reallocating resources.

The purpose of this article is to delineate the essential ingredients of a campus developmental plan, with special attention to the priority-setting process and the criteria that should be utilized to make those decisions. The approach set forth below is designed to ensure that the requisite decisions on program offerings and priorities are established *prior* to decisions on resource allocation and that the latter consistently reflect the former.

The Determination of Program Offerings and Priorities

The major factors that must be considered in establishing the program profile of an institution are depicted in Figure 1. Each of these factors will be discussed briefly below.

Major Factors to Be Considered

Before any institution can address the issue of program offerings and priorities, it must have in hand a statement of *mission:* its educational

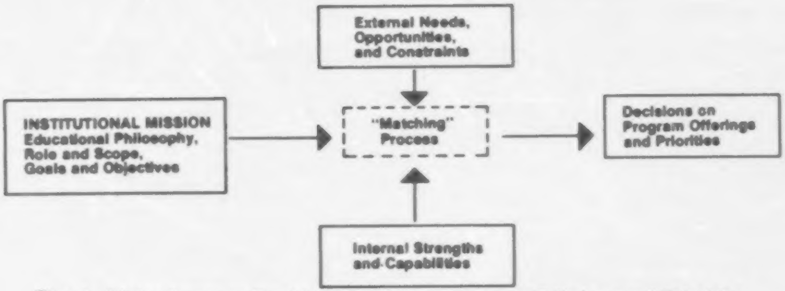
External Needs, Opportunities, and Constraints
INSTITUTIONAL MISSION Educational Philosophy, Role and Scope, Goals and Objectives
"Matching" Process
Decisions on Program Offerings and Priorities
Internal Strengths and Capabilities

Fig. 1. Major Inputs to Decisions on Campus Program Offerings and Priorities

philosophy, role and scope, and goals and objectives. As used here, the term "educational philosophy" refers to the basic values held by the institution concerning the role of education in society, the role of basic and applied research, the purposes of a liberal education, the meaning of academic freedom, and similar educational premises. The "role and scope" statement serves to focus the attention of the institution, not by identifying specific priorities or areas of emphasis, but rather by identifying the general boundaries of intellectual activity: such as the relative emphasis on graduate and undergraduate education, major constituencies to be served, the relative emphasis on teaching, research, and service, predicted enrollment patterns, and the relationship of one campus to other components of a system. These and other "boundary dimensions" must be stated to provide the basic framework for subsequent decisions on program offerings. The third and final component of mission, "goals and objectives," refers to the statements of intent that have been derived from the institution's educational philosophy and role and scope. They are statements of intent in that they delineate *what* the institution hopes to accomplish, rather than *how*. Goals and objectives should be stated in outcome-oriented terms in order to keep attention focused on the desired end results of the learning process.

The second major influence on program offerings and priorities shown in Figure 1 is *external needs, opportunities, and constraints*. Examples of the focus of analysis here would include the following:

The social/demographic characteristics of the geographical area
Location in the area of unique institutions or organizations
The types of industry located in the area
The existence of other educational institutions, their missions, and the opportunities for collaboration
Other distinguishing characteristics or resources of the geographical area that may present unique opportunities

Distinguishing characteristics of the area that *constrain* the institution's ability to develop certain areas of knowledge.

Each of the major areas must be assessed in terms of the educational philosophy and role and scope of the campus to determine if particular needs and/or resources in the environment promise to reinforce educational mission. If the promise of reinforcement does not exist, a given need or resource cannot be identified as an "opportunity" for the university. On the other hand, some external phenomena may well be acting to constrain the institution's ability to act in certain areas (e.g., the programs offered by a competing institution). In general, the purpose of the environmental assessment is to identify key external factors, assess them in relation to campus mission, and finally to identify opportunities and constraints for particular types of programs. However, a mere listing of opportunities and constraints is not enough. Each item on the list must be related to specific programs of the institutions, whether or not now in existence. For example, assume that the environmental assessment concludes that a particular industry constitutes a definite technological resource for fulfillment of educational mission. What ongoing programs could best effect a mutually beneficial relationship with the company? What new programs could be developed to capitalize on this resource? How could unique combinations of existing programs be designed to take advantage of this laboratory without requiring additional resources? These and other programmatic issues should be raised in a *preliminary* way upon identification of an opportunity, but final answers should await the internal assessment of strengths and weaknesses described below.

The assessment of external phenomena reveals what the campus *might do* or, in some instances, what it *should do*. On the other hand, the assessment of internal strengths and capabilities, the third factor shown in Figure 1, provides an indication of what the university *can do* or, conversely, what it *cannot do* in quality fashion. Thus this part of the process focuses on the results of program evaluation along various dimensions and with various sources of inputs.

Systematic evaluations of academic programs have been increasingly widespread in higher education and have received a good deal of attention in recent years, especially at the graduate level [6, 13, 16, 19, 25, 29, 31, 34]. The search for better measures of quality is the subject of an extensive study by Mary Jo Clark and her associates at the Educational Testing Service [15, 16, 17]. While all three major types of evaluations—reputational ratings, accreditation, and individual program review—provide valuable information, the most useful of these for the purpose of campus planning are reviews of individual programs.

For example, SUNY-Albany initiated in 1970 a series of reviews that resulted in the evaluation of every graduate program on the campus by 1976 [18]. Each review (which now includes administrative as well as academic and research units) follows guidelines that define the generation of a self-study document by the individual department, the visit to the campus by external consultants, the receipt of their verbal and written reports assessing strengths and weaknesses and recommending improvements, campus analysis of the recommendations, and implementation if appropriate [36]. Ninety-eight separate teams of consultants have visited the campus and submitted reports that provide a wealth of information on which to base the matching process leading to the determination of campus priorities.

The "Matching" Process

As indicated in Figure 1, decisions on program offerings and priorities result from a proper "match" of (1) mission, (2) external factors, and (3) internal strengths and capabilities. The following paragraphs discuss how one might approach this task, although it should be recognized from the outset that there is no precise algorithm available for solution of a policy problem such as this. Many of the variables involved defy quantification, making all the more important the need for a structured, albeit heuristic, approach to the task.

Figure 2 presents an overview of the variables involved in the matching process, as well as the results that are desired. Looking first at the desired results on the far right of Figure 2, what is sought is the grouping of programs into these six clusters.

The evaluative criteria shown on the far left of Figure 2 provide the primary means for relating external and internal phenomena in the decision process. It is important to note that the criteria to be employed for this purpose are *not* necessarily the same as those that would be applied to an individual program in an evaluation process designed to improve its curriculum, research efforts, and other endeavors. The distinction between *institutional development* and *program development* is subtle, but real nonetheless. The criteria shown in Figure 2 are synthesized from the approaches to program assessment used by Balderston [4], Blackburn and Lingenfelter [6], the Educational Testing Service [17], Fleming [19], Hartmark [22], the State University of New York [34], and Volkwein [36]. These approaches, combined with the six years of program evaluation and two years of priority setting and planning on the SUNY-Albany campus, give a generous if somewhat complex foundation upon which to build.

Evaluative Criteria	Rating Categories
QUALITY	
Quality of Faculty	Exceptional, Strong, Adequate, Weak
Quality of Student	High, Medium, Low
Quality of Library Holdings	Excellent, Adequate, Insufficient
Quality of Facilities & Equipment	Excellent, Adequate, Insufficient
NEED	
Centrality to Mission	Yes, No
Present Student Demand	High, Moderate, Low
Projected Student Demand	Growing, Stable, Declining
Demand for Graduates	High, Medium, Low
Locational Advantage	Yes, No
Comparative Advantage	Yes, No
COST	
Cost/Revenue Relationship	Good, Adequate, Poor
Other Costs and Benefits	(Listing)

Evaluation
– of –
Individual
Programs

Program Clusters

The programs to be continued at the current level of activity regarding resource allocation, enrollments and number of faculty.

Existing programs to be continued but at a reduced level of activity and resources.

Existing programs to be continued but at an increased level of activity and resources.

Programs now in existence to be singled out for further development as areas of excellence.

Programs now in existence that are to be phased out.

New programs to be developed.

Fig. 2. Criteria for Evaluation of Existing and Proposed Programs

Space does not permit a lengthy discussion of the various indicators that provide measures for each criterion. Some of the literature cited above will assist in this regard. The discussion below outlines what is meant by each of the criteria as applied to programs. The experience on the Albany campus suggests that evaluations by external consultants, departmental self-study documents, and various internal and external data sources, will, if structured properly, provide enough information to make broad judgments about the above criteria for each program. Our experience suggests that it is both difficult and unnecessary for planning purposes to classify programs into more refined rating categories than is shown above.

Program Quality

1. *Faculty Quality*—The faculty is the most important element in overall program quality. Published scholarship, research funding, honors, reputational ratings, and teaching evaluations exemplify indicators of faculty strength. The number (or "critical mass") of faculty is also relevant here and interacts with program quality. Most educators would agree that if faculty resources fall below some lower limit, then the ability to offer a viable program is called into question; and a rating of "weak" automatically results. Assuming, however, that a program has the necessary minimum resources in quantitative terms, different types of institutions will assign different weights to the various quality indicators. For universities, the faculty quality criterion is most usefully defined as the level of scholarship that the existing faculty members have attained or are capable of attaining over the next few years. For a university, the referent point should be national standards of scholarship. To be rated as "excellent," therefore, the faculty should have the potential to attain a level of scholarship that would be matched by few institutions. A rating of "strong" would imply leadership in the professional or disciplinary field, but not eminence. "Adequate" refers to an average level of performance, one that is respectable by national standards but falls short of a leadership position. Finally, a rating of "weak" should be assigned if the performance of existing faculty is below that minimal level of scholarship expected in the field.

Colleges that place less emphasis on research may wish to place more weight on other factors, such as teaching evaluations, in determining faculty quality.

2. *Student Quality*—The quality of a program is also reflected in the quality of its students and graduates. The traditional measures of student quality include test scores, grades, awards, and financial aid based upon merit. Common outcome measures of student quality are found in judg-

ments of student research, placement records, and career success and satisfaction of graduates. Program quality is perhaps most accurately revealed by the effects of the educational experience on students, and Bowen [8] has summarized most of the research in this area. While the measurement problems are complex, programs and colleges have been found to differ in their impact upon students in a variety of cognitive and noncognitive ways.

3. *Library, Facilities, Equipment*—Most program evaluations attach lesser importance to library holdings, facilities, and equipment. Because these considerations are closely linked to resource questions, however, they need to be included in the planning process, especially for graduate programs. The quality of the library collection is an important supporting indicator of program quality. A rating of "excellent" means that the present library holdings in the professional or disciplinary field are sufficient to support a program of the first class. The other categories refer to collections that are "adequate" or "insufficient" to support the program.

The criterion for facilities and equipment is especially important for programs in the experimental sciences and in the performing and studio arts. The referent points for evaluation indicated under the library criterion should also be utilized here.

Need for the Program

The need for an academic program can be expressed in many diverse ways. Indicators of need can be found both outside and within the institution, and the following are considered to be the most important:

1. *Centrality*—Centrality refers to the role of the program and its relationship to campus mission. There are no degrees of centrality: A given program either is central to the goals of the institution or it is not. The criterion is best tested by asking this question: Would the absence of this program require an alteration to the purposes and mission of the institution? If the decision on centrality is difficult to make for certain programs, it is highly probable that the mission of the institution needs further clarification.

2. *Student Demand*—Student demand is a "market" criterion that has several subcomponents: (*a*) undergraduate vs. graduate; (*b*) majors vs. non-majors; *(c)* present experience vs. future projections.

Demand at the graduate and undergraduate levels within each field may be very different. This can be adjusted for by applying the criterion separately to each program level.

A gauge for measurement of demand by majors is provided by the numbers of students who apply for admission or otherwise seek to major in a given field, and by the enrollment credits generated from a department's own students. Demand by non-majors can be gauged by the amount of service (credit hours) provided to students from other fields.

It is always easier to describe a program's present enrollment experience than to predict what it will become. While the literature and experts in each field can provide assistance, projection always involves some assumptions and guesswork.

The experience of the planning process at Albany suggests that for most programs it is reasonable to classify present demand as high, medium, or low based upon quantitative and qualitative analysis of applications, admissions, and enrollments. For example, various quantitative measures (like graduate applications received and credit hours generated) enabled the classification of programs into clusters of top one-third (high), middle one-third (medium), and bottom one-third (low).

It is also possible in most fields to make short-term and tentative long-term projections of demand as growing, stable, or decreasing. This broad trichotomy can be based in part upon extending recent statistical trends, upon demographic projections, and upon perceptions of consultants.

3. *Projected Demand for Graduates*—This criterion refers to the career opportunities projected to be available to graduates of the program. A rating of "high" demand may be used to characterize an employment market where demand is projected to exceed supply significantly. A rating of "medium" demand implies a rough balance between supply and demand. "Low" demand would refer to a very tight job market, one in which opportunities for graduates are projected to be either few in number of ill-defined. There are several difficulties with this criterion. For one thing, it is probably an irrelevant criterion in most liberal arts disciplines, especially at the undergraduate level. Secondly, manpower projections are always precarious, even in fairly well-defined professional areas. Thirdly, most campuses are ill-equipped to supply information about the previous and present employment experiences of students, much less to predict the future. Nevertheless, it can be used as a crude indicator of need for some programs.

4. *Locational Advantage*—Does the program enjoy significant advantages due to the unique location of the institution? The advantages could be of many types, depending on the demographic, industrial, geographic, cultural, or other attributes of the area. However, the programmatic advantage should be clear and demonstrable—not merely presumed because of some tenuous possibility of future exploitation of a particular external resource.

5. *Comparative Advantage in Relation to Other Institutions*—In the immediate region of service, or among "competing" institutions, does

the program have distinctive features that warrant its continued support? It may be distinctive in its approach, uniquely central to the institution's mission, of especially high quality, or otherwise viewed as having a comparative advantage. Thus the evaluation of programs on this criterion must recognize that duplication per se is not necessarily undesirable. On the other hand, the rationale for continued duplication should be clearly explicated.

Program Cost

1. *Cost-Revenue Relationship*—The assessment of needed resources and costs is a complex judgmental process that is fraught with pitfalls. Balderston has assembled and analyzed the results of cost studies in various disciplines [4, 27], and this is especially helpful in estimating the eventual costs of new programs. For existing campus programs, however, the evaluations by outside consultants probably provide the most objective sources for making these judgments. In all cases, major considerations must be the size of the "gap" between the current level of quality and that which is desired, and the relationship between costs and revenues. To be assigned a rating of "excellent" on this criterion, a program must have the potential for generating an excess of revenues over costs. An "adequate" rating implies that revenues earned are approximately equal to costs, while a "poor" cost/revenue relationship means that costs are projected to exceed income in the future. In this context, then, all sources of revenue should be considered.

2. *Other Costs*—This criterion represents the opportunity to consider noneconomic, qualitative costs and benefits to the institution. What are some of the intellectual, social, legal, and political costs of offering certain programs? What is the impact on affected external constituencies? Are there more intangible benefits on the side of action or inaction?

There are, of course, a variety of data inputs—both quantitative and qualitative—that are helpful in arriving at a final assessment of a given program on each criterion. Even though there are rarely straightforward conclusions that emerge from data analysis of this sort, it has been our experience that, when presented with a reasonable amount of factual information, evaluative groups reach consensus about current program status rather quickly. Disagreements are more likely to occur when confronted with the issue of deciding *future* program status, e.g., whether a given program should be terminated or whether it should be developed to average quality, strength, or eminence. Conflicting educational values arise at this stage, making more difficult the process of translating evaluation results into priority decisions.

Translating Evaluation Results into Decisions on Priorities

There is obviously no precise formula for translating the program evaluation results into priority groupings. As already indicated, different rating categories were used for the various criteria, thus making impossible the assignment of numeric scale values for analytic purposes. Also, and even if a common scaling device could be developed for all criteria, it is neither possible nor desirable to develop a generic weighting scheme. The relative importance of the criteria will not only vary across institutions, but also across specific programs within a single institution. All factors must be weighed together in light of the particular circumstances of a given program and in light of the institution's mission. Relating evaluative criteria to target goals and resource priorities is a highly interactive intellectual process.

To illustrate the case by case nature of the decision process, consider each of the sets of program evaluation results shown in Table 1.

Assume that Program A in Table 1 is in a core scientific discipline that has experienced a dramatic national decline in external research funding. The ratings reflect the program's high quality but moderate need. A strong and visible research faculty has been assembled over the years and they have attracted a group of graduate students who are strong in quality and number. Library and research facilities are adequate to support the program. Although the graduate program is a central one, other need criteria are negative. Though the graduate applications are of good quality, they are moderate in number and projected to decline. Publications in the field suggest a growing oversupply of Ph.D.s. No locational or comparative advantage exists; in fact, another competing university in the

TABLE 1

SAMPLE RESULTS OF PROGRAM EVALUATION PROCESS

	PROGRAM		
	A	B	C
Quality			
Faculty	Strong	Excellent	Weak
Student	High	High	Low
Library	Adequate	Excellent	Adequate
Facility	Adequate	Excellent	Adequate
Need			
Centrality to mission	Yes	No	No
Present student demand	Moderate	Moderate	Low
Projected student demand	Declining	Stable	Stable
Demand for graduates	Low	High	Low
Locational advantage	No	Yes	No
Comparative advantage	No	Yes	No
Cost/Revenue Relationship	Adequate	Adequate	Poor

state contains a department that is also nationally prominent in the field. The cost/revenue relationship for Program A is adequate and it still competes successfully for its share of external funding.

In view of this profile, it seems unrealistic to target Program A beyond its existing position of strength, and premature to reduce its support and risk undermining its reputation and quality. Therefore, Program A becomes a candidate for a resource priority that maintains current support.

Program B is an advanced professional school (e.g., engineering or business). The program is highly rated for its faculty and student quality and for its library collection and facilities. Demand for its graduates is projected to continue at a high level. The school enjoys a locational advantage because of a large technological industrial corporation headquartered in the same city. The program also has a unique curricular subspecialty, which earns it a comparative advantage. Its cost/revenue relationship is adequate, and thus the program requires no subsidy from other parts of the university. Student demand is moderate and projected to be stable, so one would not expect serious deterioration of the cost/revenue relationship or underutilization of faculty and support resources in the future. Finally, the professional school in question receives a negative rating on the centrality principle, indicating that it is not critical to the future mission of the institution and/or is a relatively free-standing educational unit within the total enterprise.

How does one "classify" Program B based on the ratings indicated in Table 1? First, the only negative rating appears on the centrality criterion. However, this negative result would be of importance only if serious problems were evident on the other criteria. A program need not be central to the primary thrust of an institution in order for it to be offered, but the lack of centrality when combined with negative ratings on other criteria indicate a primary candidate for termination. In the case of Program B, however, the ratings on the other criteria are not just positive, but high. Thus a target goal of eminence may be assigned to reflect what is clearly feasible in terms of the resources available (human, financial, and physical), the external need for qualified graduates, and the interests of students. Giving this program a high priority for resources at this time has the potential of placing the school in a position of national distinction.

Program C presents an altogether different case. It represents a graduate program of poor quality and low need, which has suffered enrollment declines leading to a reduction in admission standards and a poor cost/revenue relationship. As indicated in Table 1, almost all of the ratings are negative: weak faculty and students, with several faculty positions and graduate assistantships needed for improvement; lack of centrality to institutional mission; low student demand accompanied by an outlook that it will remain low; low demand for graduates; no locational advantage; no comparative advantage over similar programs in other universities in the same state. Although the library collection and facilities are adequate, Program C is obviously a prime candidate for termination, especially if the institution is faced with declining or even steady-state resources.

While obviously oversimplified, the reasoning employed above should serve to illustrate not only the need to consider the unique circumstances of individual programs when setting priorities for development but also the heuristic nature of the process. Unless the process is structured to a reasonable extent, however, the inherent subtleties and ambiguities will likely remain undetected.

Integrating Decisions on Priorities with Decisions on Resource Allocation

Once all programs (existing and proposed) have been sorted as described above, there remains the issue of how to insure that priority decisions are reflected in the budgetary process. Programs that are targeted for the higher levels of achievement are *not* necessarily given top priority in resource allocation in any given year. A program targeted for continuance (but not eminence) might well need significant resource augmentation in order to achieve that goal and accommodate planned enrollments—perhaps even more than a program targeted for eminence that is very close to achieving such stature already. Similarly, all programs targeted for eminence are not likely to be equidistant from that goal, again necessitating a resource allocation pattern that differentiates among programs according to their current stages of development. Also it is conceivable that a program could be maintained at a level of national strength with fewer resources than are currently being made available to it. In short, a ranking of programs in terms of developmental priorities is *not* the same as a ranking of resource allocation priorities in any given year. However, the former should guide the latter, and the rationality of resource allocations should always be tested against the target goals to ensure that any deviation can be logically explained.

As is evident from the above, there is no precise algorithm to "link" the priority setting and budgeting processes. Certainly an institution will wish to provide those resources needed to achieve and/or maintain positions of national leadership (such as Programs A and B above). On the other hand, weak areas should be developed to a point of adequacy as soon as possible or terminated. In general, there are two principles that should guide the annual budget process:

—As a first priority, a university must provide *all* programs to be continued with the resources needed to achieve an acceptable level of quality and to accommodate planned enrollments. Thus any unit to be continued must be provided a threshold of resources (as in the case of Program A above), or terminated (as in the case of Program C).

—As a second priority, a university should provide those resources needed to facilitate attainment of national leadership in those programs that are at or near that level of quality already (Program B).

The first general principle may be labeled the quantitative or "even-handed" approach to resource allocation, as it establishes an obligation of egalitarian character to all programs deemed worthy of continuance. The second more qualitative principle is that of "selective excellence," and therefore applies only to a few targeted areas. If the second principle is to become important in reality on most campuses, however, an institution must ensure that its program profile does not become so extensive as to prevent the selective devotion of resources to a few, high-quality areas. Otherwise, the evaluation and decision process described throughout this article will produce a statement of priorities that stands little chance of being implemented.

The legal and political intricacies in making these program determinations, along with helpful procedural recommendations are adequately discussed by the AAUP [2], by Alm, et al. [3], and by Brown [10], so they do not need repeating here. However, the value of engaging in this difficult process is that it results in the freeing of resources for reallocation. As the Carnegie Foundation noted, "Reallocation is the main source of flexibility when income growth ends," and most institutions of higher education need planned flexibility in order to remain adaptive and viable [12].

As steady-state financing becomes the rule rather than the exception, institutions must be willing to extract programs not meeting the criteria outlined above in order to preserve the vitality of those at the heart of the intellectual enterprise. The authors believe that these decisions are best made at the campus level within the context of an overall academic planning process that involves faculty, students, and administrators. We have presented a conceptual framework, if not a procedure, to assist others who need to establish priorities for the future.

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3.

Improving Communication and Participation in the Planning and Budgeting Process

Summary of Forum Discussions

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Three principal focuses emerged from the forum discussion on improving participation and communication in planning and budgeting: (1) the environmental context of the higher-education organization engaging in planning and budgeting, including both external and internal factors; (2) the difficulties encountered in mobilizing and sustaining participation in planning and budgeting processes; and (3) problems in communicating the results of planning and budgeting activities to the various internal and external interest groups who may either be affected by or interested in developments.

Every organization, be it profit or nonprofit, public or private, large or small, operates in a unique internal environment and environment external to its organizational boundaries. Organizations engaged in providing educational services are no exception. Moreover, these environments are constantly changing, usually in an evolutionary manner, but sometimes when under great pressure, in a revolutionary manner. Most present-day observers of American higher education concur that although recent changes affecting colleges and universities, particularly those in the external environments of institutions, are occurring with increasing rapidity, current change is not revolutionary. Nonetheless, environmental change is of sufficient magnitude that forum participants identified it as one of the most pressing problems in establishing and maintaining rational planning and budgeting practices for higher-education organizations and in communicating information regarding these matters to appropriate constituencies. Turning first to the impact of the external environment on planning and budgeting, participants noted the importance of the following variables:

- *Demographic changes*, particularly projected decreases in the size of the traditional pool of 18-to-20-year-old youth from which colleges and universities have historically drawn the greatest proportion of their enrollments

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- *Changes in the economy,* specifically, inflation and its pernicious effects on institutions of higher education
- Among public institutions, *increased competition for public resources with other public-service programs,* particularly those relating to disadvantageous human circumstances, such as unemployment, health care, welfare, and children's services
- *Decreased public support for education,* including postsecondary education, as witnessed, for example, by the recent popularity of measures to reduce tax levels and by increased criticism of the educational process
- *The differential impact of these and other variables on specific colleges and universities.* For example, the profound effect of changes in demographic patterns on some institutions while others remain untouched

Given the differential impact of the various factors on specific colleges and universities, participants were hard pressed to identify a single approach likely to prove successful in communicating about either the planning or the budgeting process in institutions or in systems governing multiple institutions. In short, they concluded that there is no right or single answer to coping with such environmental changes. Instead, all institutions must attempt four activities for dealing with the change in their external environment: (1) identify those variables that seem to be of greatest importance to their particular institution or group of institutions; (2) develop the means to constantly monitor developments and changes in the important variables; (3) in implementing and continuing an institution's planning process and budgeting practices, recognize the importance of adapting to changes in the key variables; and (4) influence changes in some key variables in such a way that their potential negative impact can be mitigated or eliminated.

Forum participants also recognized the influence of an institution's internal environment on its planning and budgeting processes. Many of the issues raised seem more appropriate to discussion under the sections dealing with participation, communication, and commitment. However, several concerns about the internal environment warrant identification at this point:

- Student-related concerns, such as the type of students attracted to the institution, their success as students, the quality of instructional and other services provided to them, and their success upon graduation
- Faculty-related matters, such as tenure status, age of faculty, and success in retaining productive faculty or attracting new faculty members

- Change in the curriculum and its impact on students and faculty, on organizational structure, and on influence patterns of internal interest groups

As with influences of the external environment, agreement was reached that no uniform mix of these factors within colleges and universities gives rise to the application of a single planning methodology or a single set of budget-setting practices. Rather, methodologies and practices depend on each institution's unique circumstances.

Higher-education organizations are characterized by diffuse goals, fragmented authority structures, and irregular participation in organizational activities by their members. Given these circumstances, mobilizing and sustaining participation in planning and budgeting activities by *all* members of the organization are difficult. Some organizational participants hold personal goals that are at variance with the organizational goals and thus are reluctant to devote their time and energy to the pursuit of the organizational goals. Owing to fragmented and often weak internal authority structures, colleges and universities frequently are not in a strong position to require shared responsibility for planning and budgeting activities, particularly by faculty. Finally, among those who are willing to participate, activity is irregular; participants may be highly active on one issue or set of issues but relatively less interested in others.

Given these circumstances and their personal experiences, those attending the forum were not very sanguine about the likelihood of substantial progress in improving participation in planning and budgeting. However, they did identify several factors warranting consideration if such improvements are to be made.

The Need for Participation

This factor is all too often overlooked, according to discussants. In many instances, organizational members, either as individuals or as groups, are not interested in becoming involved in particular planning or budgeting decisions. To require their involvement under such circumstances wastes their time and will likely hinder the decision process. The difficulty surfaces in determining which issues appropriately require involvement and which do not. Prior consideration of several factors will assist in this important determination.

- The organizational history of involvement is perhaps the most important factor. Many institutions have a long history of faculty, student, or other group involvement or lack of involvement in decisions related to institutional planning and budgeting. This history or "organizational saga" (Clark 1975, p. 98) should be accorded considerable weight in decisions about participation and in structuring involvement.

- The nature of the issue or issues is another key factor. Some issues, such as faculty salaries or expenditure of student-government funds, virtually require the involvement of the affected parties at most institutions. Other issues, such as the level of expenditure for groundskeeping, typically generate little interest except among administrative officers. Those charged with the responsibility of conducting institutional planning and budgeting must be particularly sensitive to the nuances of issues when making decisions about whom they call on for assistance, the number of such participants, the participants' role perceptions, and the optimal role for them.

Planning and budgeting decisions take place at a number of levels within an organization's hierarchy. For example, small private colleges and universities governed by their own boards of trustees have a relatively simple decision hierarchy. By contrast, large public institutions often have complex decision structures that may involve a statewide governing board for multiple institutions and a state postsecondary coordinating agency. Moreover, the executive and legislative branches of state government also frequently become directly involved in higher-education planning and budgeting. Forum participants were nearly unanimous in the view that the ease of securing faculty participation in budgeting and planning is inversely related to the organizational level at which these activities are being conducted. They concluded that, in descending order, significant faculty contributions occur at these levels: department, school or college, institution, governing board, and governmental body. This implies that faculty involvement and influence in planning and budgeting should be intense at the level closest to their level of responsibility (department, school, college). Conversely, administrative involvement and influence should increase as decisions are made higher in the organizational structure and should dominate in the dealings with external bodies such as coordinating agencies and the legislative and executive branches of state government.

Potential Impact of Decisions

The final factor identified as important in efforts to improve participation in planning and budgeting is the nature and organizational location of the potential impact of decisions resulting from these activities. Individuals and groups are more likely to involve themselves in planning and budgeting deliberations if they perceive that they or their primary organizational subunit will be directly affected, either favorably or adversely, by the resultant decisions. Discussants observed that this relationship can help secure participation by affected groups in many circumstances, just as it can constitute a hindrance in others. Therefore they recommended that those individuals directing the planning or budgeting process of an institution or multiple-institution system endeavor to analyze carefully the potential impact of these activities and then seek to involve those most likely to be affected.

Communication is a frequently cited organizational problem, whether the organization is complex or simple, large or small. However, complete and total effective communication is rarely achieved within organizations. As with environmental adaptation, no single answer is appropriate for dealing with the wide range of communication problems in higher-education organizations. However, forum participants did recommend that the following considerations be weighed in efforts to improve communication about planning and budgeting decisions:

- Organizations possess both formal and informal communication networks. An effective communication plan recognizes this fact and tries to utilize both types of networks in transmitting information to organizational participants.
- Problems thought to result from insufficient or inaccurate communication may, in fact, really be symptomatic of a larger organizational problem. For example, two instructional departments may allege that they have difficulty communicating with one another, when in truth, they are competing for scarce resources and want as little to do with each other as possible.
- Colleges and universities need to devote greater attention to how their communication efforts regarding planning and budgeting are received. Heretofore, the greatest attention has centered on how and when information is transmitted. However, communication efforts are ineffective and perhaps damaging if the recipient fails to understand or misconstrues the information transmitted.
- Colleges and universities must communicate with multiple constituencies, both internal and external to the organization. Sensitivity is required in determining the information needs of the various constituencies and in developing methods to meet those needs.

Forum participants were not optimistic about the likelihood of identifying specific strategies for improving participation and communication in higher-education planning and budgeting. They repeatedly emphasized two negative points: colleges and universities in the United States are too diverse for a single strategy to prove workable, and planning and budgeting have become so routine and institutionalized at many institutions that most faculty are not interested in involving themselves unless there is an institutional crisis or unless their specific unit will either benefit directly or be threatened.

On the brighter side, forum discussants did indicate a willingness to widen and deepen the degree of involvement of organizational constituents in planning and budgeting. Rather than taking the stance that "we don't need or want your help or advice," the participants seemed to be saying, "we are facing big problems in the near future that will affect all of us, and we wish your help in trying to plan and to budget in the face of these problems." This is a hopeful note, not only for planning and budgeting, but for the overall future welfare of colleges and universities as well.

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Management Information Systems: The Human Factor

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During the last decade computerized management information systems (MIS) have become a most pervasive presence in the college and university environment. The pressure to computerize has emanated from a number of sources. First, there was the need to respond to the often repeated, but rarely validated, charge that colleges were poorly or inefficiently managed. Computerized systems tended to give at least the appearance of efficiency. Increasingly scarce resources demand the most efficient and effective use of that which is available and there is a real need for defensible, and even accurate, data when hard decisions must be made.

Secondly, as institutions grew during the sixties, many faced problems of scale, for with increasing size traditional methodologies for keeping the "record straight" rapidly broke down. The problems were exacerbated by the demands for more sophisticated information from regulatory groups under the general rubric of "accountability." MIS was also seen as an antidote to abuses engendered by personal knowledge or friendship being perceived as the basis for the decision-making process. Computer data are in general considered to be relatively "cool" or neutral, thus providing the basis for more rational, or at least more defensible, decisions in increasingly complex institutions.

It can also be hypothesized that management information systems tended to restore a measure of power, or at least leverage, to college presidents in an age during which they appeared to be losing their authority. If hard data represent power, then to the extent that a management information system facilitates the flow of data to the office of the

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president, it can be seen as increasing the power of that office. In addition to this, with increasing pressure for efficiency, a president who wished to be thought of as innovative might well turn to MIS or to a sophisticated computer-driven planning system to build his or her public or professional "image."

For whatever reasons, management information systems are here—and here to stay. Much has been written concerning the element of, and procedures for, system design. However, little has been said about the problems associated with the actual implementation of major systems in the academic environment [4, 7, 9]. It is assumed over and over again in the literature concerning MIS that the installation of such a system could not be greeted with anything other than overwhelming enthusiasm. Such an assumption is open to serious question.

An analysis of the minutes of some of the professional associations[1] directly concerned with MIS indicated that most, if not all, systems experienced difficulties of one sort or another. A decade ago the trouble generally took the form of hardware breakdowns or design difficulties, which caused delays, confusion, and loss of confidence. Although these problems still exist to a certain degree, they have become somewhat less troublesome with the newer technologies and increased experience with large information systems. However, a new class of problems relating to human acceptance of computer systems in the academic environment has arisen. The euphoria, magic, and mystery that had surrounded computers has been dispelled by real or imagined computer-abetted abuses. Bluntly put, computer systems have encountered a measure of resistance in the academic community.

What follows is a report of a recent case study of a large management information and planning system which "failed" in the sense that it is in the process of being abandoned by the college in question.[2]

The College

Metro College is a unit of a large urban university system. During the late sixties and early seventies, when the Delta Planning System (DPS) was designed and implementation begun, the college enrolled over 25,000 students and employed a faculty of over 1,500. As is customary within the system, the president of the college was appointed directly by the university governing board. Prior to and concurrent with the implementation of DPS, the college passed through what many members of the community considered to be a period of intense stress with the advent of "new students"—several turnovers in the office of the president, a major reorganization of the college itself, and increasing stress between the faculty/students/staff and the new president.

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[1] For example, American Association of Collegiate Registrars and Officers of Admission, American Educational Research Association.

[2] In order to protect the confidentiality of respondents and to avoid any possibility of embarrassment to either the institution or to individuals, the name of the college involved and the name of the system have been changed. For the purpose of this article the college will be identified as Metro College and the system as the Delta Planning System (DPS).

The System

DPS was designed by the office of the president in conjunction with a consulting firm as a comprehensive system that was to provide Metro College with the information necessary for an effective and responsive management along with planning and budgeting data for all levels of the college's administration. It was designed to be an evaluating system; a planning system with a very sophisticated simulation model; a budgeting and allocation system; a management system designed to oversee the operations of the college; and the major vehicle for institutional research. When the planning for the system took place in 1969–1970, DPS was generally considered to be the most advanced management information and planning system ever designed for the college and university environment.

There is evident in the study a confusion that existed in the minds of the DPS planners between the nature of operational systems and the characteristics of planning systems. DPS was designed as, and still is to a great extent, a planning system. But planning systems required operational systems a priori.[3] At Metro College either the administration was unaware of this "fact of life" or they believed the necessary operational systems to be in situ; or they thought it a matter of small consequence to install such operating systems. According to respondents, the introduction of operational elements into DPS in 1972 came "very much as an afterthought."

The confusion that existed between the nature of operational and planning systems and the subsequent partial transformation of DPS into an operational system caused delays, confusion, and loss of confidence.

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[3] An operational system essentially concerns itself with displaying and organizing the current state of the institution, while planning systems concern themselves with taking the data provided by the operational system and projecting those data into the future through simulation modeling, forecasting, etc.

Although initially there were some technical problems with the system, they were apparently routine and manageable. The technical problems were not, in the opinion of respondents, at the source of the difficulties encountered by DPS. Rather, the difficulties seemed to grow out of a lack of acceptance of that system by the various constituencies on campus. It would seem as if in the heady rush of enthusiasm generated by the possibilities of new technology on campus, the human problem of acceptance of that technology was largely ignored. The problem is not confronted by either the vendors who sell the systems or the technicians who design them. The problem was not confronted to any visible extent in the literature and apparently was not considered by those responsible for the implementation of DPS at Metro College.

In a self-study prepared for a visit by the regional accrediting group, the faculty, students, and staff of Metro College were highly critical of DPS. Among the seventeen major problems identified with the system were: data entry was difficult, training and documentation were insufficient, the quality of the programs was questionable, and the reports produced were neither timely nor correct. In addition to this the college complained that after seven years had elapsed elements of the system had yet to be run; students and faculty found the items on race and religion objectionable; there was no leadership; most of the data collected served no useful purpose; the system cost too much; plus others. In fact, the complaints about the system required twenty-two of the twenty-five pages devoted in the self-study to the Delta Planning System. Even a cursory glance at the study would indicate that something went wrong.

Why did DPS fail after the expenditure of almost $10 million? What factors influenced the attitudes of the various constituencies on campus toward that system? What steps should a college take to decrease the possibility of significant system rejection?

Factors Affecting Human Acceptance of MIS

To answer these and other questions research was conducted at the Metro College campus. Forty-eight interviews were held with "key actors" utilizing "grounded" methodology [1, 3, 5, 8]. The formal interviews totaled 76.5 hours. In addition to this the two student newspapers on campus were reviewed for the years 1969 thru 1975 and all available memoranda and literature concerning the system analyzed. Three hundred typewritten pages of interview and other notes were coded and "saturation" as defined by Glaser and Strauss [3] was achieved in the areas indicated below.

The research indicated that the level of human acceptance of management information systems is related to: (1) the level of expectations held for that system; (2) the methodology of implementation; and (3) the degree of commitment or perceived self-interest of the constituencies involved. The level of acceptance is a function of these categories and is related to the perceived degree of success or failure of the system. These major categories of determinants are described below.

Level of Expectations

The data indicate that the level of expectations held for DPS by those responsible for its implementation, and consequently by the college community, was unreasonably high. It appears very doubtful whether or not DPS, or any other planning system, operating under the most optimal circumstances could ever have attained the goals posited for it by Metro College. The campus was, according to all respondents, seriously troubled, and DPS was held out to be the panacea. Not only, in the words of a faculty respondent, was it "going to solve all of our problems," but it was going to accomplish that task quickly, inexpensively, with existing personnel, and without unduly disrupting the traditional styles, values, or modes of operation at the college.

The assumption that a major management information system could be implemented at Metro College without fundamentally altering the power relationships or organizational behavior at that college is perhaps the most unwarranted assumption, in a long series of assumptions, made concerning DPS. Systems do imply, even demand, changes in the mode of operations and in the relative power of the various organizational units. As Lucas [6, p. 6] points out in his study of MIS in the industrial environment, "It is our contention that the major reason most information systems have failed is that we have ignored organizational behavior problems in the design and operation of computer based information systems. If steps are not taken to understand and solve these organizational behavior problems, systems will continue to fail."

The study at Metro College tends to validate this contention for the academic environment.

The excessively high level of expectations seems to have arisen both out of enthusiasm, in the classical sense of the term, and a lack of systems experience on the part of those responsible for DPS. It was simply assumed, as seems to be so often the case, that the "obvious benefits" to be derived from such a system would engender widespread support and that whatever difficulties might arise could be eliminated through the collective will of the office of the president. As the study reveals, this assumption was unwarranted, and the nature and complexity of the difficulties encountered in the attempt to implement DPS far surpassed all expectations.

The expectations in terms of time required for implementation, as well as capabilities, proved to be unrealistic. From the very initiation of the system there was evidenced in the field data pressure emanating from the college to produce "something." This pressure led to a series of unfortunate decisions, for example, the release of questionable reports, not running parallel manual and computer operations. As time elapsed and scarce resources were consumed in increasing quantities, resentment in the college community increased. That this resentment grew out of unreasonable expectations did nothing to minimize its impact upon the system.

The data suggest that the high levels of expectations set for the system by the office of the president essentially preordained the system to failure in the esteem of the college community. It is clear that an extremely modest level of expectations would have both increased institutional patience with the system and heightened satisfaction with what was produced. The frustration and anger that was generated by DPS at Metro College would have been reduced. It might be hypothesized that a system's chances of being perceived as successful are in inverse proportion to the level of expectations held for that system. It is difficult to conceive of benefits, except self-aggrandizement and the generation of excitement or publicity, which might be derived from positing very high expectations for a system, particularly when the unfortunate consequences or such activities are considered.

Methodology of Implementation

The data indicate the inadvisability of having a system being perceived as "imposed" upon a college. This perception of imposition constituted one of the major sources of disaffection with DPS. There was evidenced no *real* effort on the part of those responsible for the system to secure significant input from the various constituencies on campus. The president considered the system to be a tool with which he could control the college. The faculty, students, and staff concurred with this assessment. The absence of input led to a lack of identification with, and alienation from, the system. Respondents indicate that, had *meaningful* input been solicited, the cooperation of the various constituencies so lacking for DPS might have been at least partially secured.

The Metro College experience suggests that the more effective and efficient methodology of systems design is from the "bottom to the top" of the organizational structure rather than from the "top to the bottom." It is clear that a successful system in the academic environment cannot be simply designed and subsequently mandated by the office of the president without a prior, or at least subsequent, commitment to that system from the college community. The establishment of a series of committees representing the diverse elements of the college, and encouraging these groups to generate significant input to the system, would have both avoided a number of egregious errors, technical and in the area of "human engineering," and given the college a "stake" in the system. This was not done in the case of DPS and so the system remained alien and suspect.

The Metro College experience also indicates that implementation is best carried out in small incremental stages. In this way each part of the system remains tentative and insignificant in the eyes of the college community until it is proven and "de-bugged." With sequential implementation, the problems remain manageable due to both the relatively small data base involved in a particular problem and the ability to focus staff resources on a single problem area. In addition, the inevitable problems that do arise adversely affect only a small segment of the college community. Very gradual implementation also gives the college the opportunity to become accustomed to the workings of the system, and so there is less perception of radical change. The decision to implement DPS en masse at Metro College was perceived by respondents as being one of the major errors associated with the system.

The study also demonstrates the value of having available an individual with extensive systems experience. This person, having been through the implementation process a number of times, would be aware of the common pitfalls in systems development. Such an individual was not available at Metro College and many of the "traditional" mistakes, some of which would have rather easily been avoided, were made—and on a grand scale due to the decision to implement en masse.

Commitment or Self-Interest

The data reveal that the chances for system acceptance are enhanced if the system is perceived by the various constituencies as operating in their interests. There must be some generally accepted benefits accruing to significant groups on campus for without these benefits problems arise in the area of resource allocation. Perceived benefits generate support. Conversely, to the extent that a system is seen as operating contrary to the interests of a constituency, it will be opposed by that group.

The Metro College experience demonstrates the extreme importance of clear and creditable advertising, to each significant constituency on campus, the exact manner in which the system will benefit that group. The propagandizing should be done in the simplest and most concrete manner possible. If this maneuver proves impossible, as well it might, an effort should be made to demonstrate that the system will not actively oppose the perceived interests of that constituency. The study indicates that fairly widespread support, or at least neutrality, is required from significant groups for a college-wide system to attain its objectives.

For diverse reasons, each of the constituencies on campus, with the exception of the office of the president, perceived, justifiably or not, DPS as being antithetical to their best interests. This is particularly true of the faculty, by far the most powerful group at the college, who perceived the system as an attempt by the office of the president to increase its power and consequently erode faculty rights and prerogatives. This was coupled with concerns about the "real purpose" of such a system and about the financial burden imposed by DPS operations during a period in which faculty were being retrenched. There were also fears voiced concerning personal privacy and the general dehumanizing effects of such a system. Faculty became convinced that computer judgment was to be substituted for academic judgment. Many faculty expressed doubts as the appropriateness of any computerized MIS in the college environment—"Such things do not belong here." The students, who were not consulted during the design, believed that the system was partially designed by "big brother" to monitor affirmative action and would inevitably result in increased numbers of minority faculty and students at Metro College. The student demonstrations that resulted from the questions concerning race and religion paralyzed the campus for a week. Both the professional and nonprofessional staffs each had reasons, peculiar to themselves, for disaffection with DPS.

A recurrent theme in the study of DPS relates to the nonneutrality of data. Every faculty member interviewed, and most administrators, remarked that data at Metro College are not neutral—they are a weapon that could, and inevitably would, be used against them. Respondents expressed their belief that data, once provided, would be subverted to nefarious ends by the office of the president, or the central governing board or "the authorities." According to one chairperson, rather than a management information system, DPS constituted "an instrument of administrative oppression." The study leads to the hypothesis that systems cannot be imposed successfully over the opposition of significant constituencies for they are dependent, in the academic environment, on the good will and cooperation of the *collegium* as well as the mandate of the office of the president.

Conclusion

DPS failed for reasons human rather than technological. It lacked the support, or even the acceptance, of every major constituency on campus with the exception of the office of the president. In addition to the major problems associated with levels of expectation, methodology of implementation, and degree of commitment that are discussed above, some fifty-seven distinct properties that affect human acceptance were identified during the research.[4] Although it is obvious that some factors were more significant than others, any ranking involves a degree of intuition. However, five factors do emerge from the data both in terms of frequency and relative importance attached to them by respondents. They are:

1. The system was perceived by the college as being imposed by the office of the president
2. Data were considered to be a weapon
3. The system was perceived as an attempt to erode faculty powers and prerogatives and for increasing the relative power of the office of the president
4. The system was "oversold"
5. There was no professional direction, which would have avoided the most common pitfalls in the system's implementation.

What can we learn from the Metro College experience? *If* Metro College designed and implemented their system with the assistance and cooperation of the entire college community, *if* reasonable expectations had been posited for the system, *if* Metro employed seasoned MIS staff, *if* the stress that existed between the faculty/students/staff and the office of the president had not caused the system to become the "battle ground", *if* the necessity of having a good data base in place prior to attempting to implement a sophisticated planning system had been understood, then Metro College might well have designed and implemented a system which, in the words of its president, was to "take the college out of the horse-and-buggy age and into the twentieth century."

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[4] For a complete list and explanation of these factors see "Human Acceptance of Management Information Systems in Colleges and Universities: A Case Study" [2], available through University Microfilms, Ann Arbor, Michigan.

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Political Behavior in Higher Education Budgeting

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With the advent of the financial crisis of the 1970s, colleges and universities have been encouraged to improve the quality of their budgeting processes and to expand participation as a means of creating "a more effective use of resources." As a result, nowhere in universities are decision possibilities greater than in the budgeting process.

Budgets are important because they represent decisions that are both critical and contested. The budget is, at base, a plan of operating, expressed in dollars, for a given fiscal year in a given institution. It itemizes expected revenues by source and proposed expenditures by organizational unit for the various functions or programs of the institution. Budgeting has always been conceived, at least in part, as a process for systematically relating the expenditures of funds to the accomplishment of planned objectives. It also provides a forum for assessing how these objectives might best be achieved and provides the structure for controlling the expenditure of funds to achieve the objectives.

Frequently, budgetary decisions are made through the exercise of power in complex political behaviors. Wildavsky, who has written eloquently of political activity in public sector budgeting, puts it quite succinctly:

> we shall be concerned with budgets as political things . . . the federal budget is a representation in monetary terms of governmental activity. If politics is regarded in part as conflict over whose preferences are to prevail in the determination of national policy, then the budget records the outcomes of this struggle. If one asks, "Who gets what the government has to give?" then the answers for a moment in time are recorded in the budget. If one looks at

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> politics as a process by which the government mobilizes resources to meet pressing problems, then the budget is a focus of these efforts. . . .In the most integral sense, the budget lies at the heart of the political process. [14, p. 4]

Political Behavior

Political behavior is not exclusive to those formally involved in political systems. One does not have to seek or hold public office to "play politics" or to "be a politician." Politics is inevitable in every organized setting: "The 'who gets what' dynamic is endemic to every organization, regardless of size, function or character of ownership. Furthermore, it is to be found at every level of the hierarchy; and it intensifies as the stakes become more important and the area of decision possibilities greater" [16, pp. 47–48; 8].

"Politics" is a word that is frequently used by college administrators and faculty members, but few definitions can be easily applied to organizational settings. Most often, the word is used by persons in higher education to denote "trickery," "playing games," "deception," or "blatant use of power." A common political science textbook definition of political behavior is the "acquisition of power." This definition begs the question of the purposes for which power is acquired and used and, therefore, is of limited value in explaining behavior in the budget process. Without some reference points for describing the intentions of the political actor and the impact of this individual's action on the organization, we have no way of judging the utility of political behavior in an organizational setting.

A definition that provides the foundation of a more useful model for research on political behavior, for understanding how to behave politically, or how to manage the political behavior of other persons in organizations is "any behavior by organization members that is self serving" [8, p. 64]. This itself is not power, but requires power to attain its end; and the objective of action is something of value to a subunit of the organization, either an individual or a group. Although Robbins, the author of this definition, is not clear on the matter, there is little reason to restrict "self interest" to economic concerns; the definition should be broadened to include the desire to fulfill other needs such as achievement, affiliation, power, self-actualization.

Why is a political behavior model more useful than other models for understanding and predicting behavior in higher education budgeting? Primarily because the assumptions that must be made to use the alternative "rational economic-man" models of resource acquisition are of questionable validity in their applications to complex organizational settings.

The rational models rely on people making optimal choices about economic matters and assume that people have perfect knowledge of desired objectives, optimal strategies to achieve the objectives, and specific actions that will effectively implement the strategies. Unfortunately, in the university, there is rarely consensus about goals and priorities; long range educational and administrative strategies are poorly defined; and the choice of actions needed to implement a particular strategy is made difficult by the complexity of the issues, the constantly evolving objectives and strategies, and the relative autonomy of the actors.

In complex organizations, where the perfect knowledge required by the rational models does not exist, judgment and compromise frequently supercede computational and bureaucratic forms of rational decision making [12, p. 86]. Decisions are not made solely by impartially determined formulae or by straightforward appeals to hierarchy, but are subjectively negotiated.

Disagreements arise and are often resolved by the use of power. As a result, the question of "who has power" becomes as important as "which ends are to be achieved." The powerful person or group is able to be influential in deciding how disagreements are to be resolved. In the jargon of public administrators, the person or group is able to exercise "discretionary power":

> The crucial aspect of budgeting is whose preferences are to prevail in disputes about which activities are to be carried on and to what degree, in the light of limited resources. The problem is not only "How shall budgetary benefits be maximized?" as if it made no difference who received them, but also "who shall receive budgetary benefits and how much?" [13, p. 184]

Bases of Power

Considerable research has been done on the bases of power in organized settings, as they are exercised by individuals and by formal and informal groups. Concepts of "bases of power" are most frequently used to classify individual power sources [2], but they may be applied to groups as well as to individuals.

—Power to reward—ability of the "person" to fulfill important needs of the "other"
—Power of coercion—ability of the "person" to punish the "other"
—Power of legitimate authority—acceptance by the "other" of the authority which the "person" derives from formal position in the organization hierarchy

—Power of expertise—respect of the "other" for the "person's" skills and abilities
—Referent power—the "other's" identification with and attraction to the particular "person."

Some bases of power accrue directly to the individual as a result of holding a position in an organized group. It is possible that persons who derive their discretionary power (reward, coercion, legitimate authority) from formal positions in the administrative hierarchy have highly developed political skills, i.e. they are very good at acting in their own self interest [8, p. 77]. Also, it is likely that fairly sophisticated political skills may be a requirement for attaining positions that allow the exercise of discretion. Individuals or groups may initially have to rely on power derived from expert or referent sources, but if they are effective in their influence attempts, they may "graduate" to the formal positions that promise other sources of power.

Because persons affected by the use of power find some forms more acceptable than others, all sources of power are not equally desired by the aspiring political actor. Several studies have shown that persons prefer that powerful others use legitimate or expert power rather than referent, reward, and coercive power. And, in a study directly relevant to higher education, college faculty members expressed a distinct preference for the use of personal expertise rather than legitimate power [1]. Based on this research, one might hypothesize that the political actor in the college or university budget process who uses power derived from less preferable bases (e.g. discretion achieved by means of reward, coercion, formal position) in interacting with individual faculty members or faculty groups should do it infrequently and expect a smaller likelihood of success in the influence attempt.

Use of Power by Groups

As important as individual discretionary power can be in organizations, an analysis of political behavior in budgeting requires an examination of formal groups of the organization such as offices, departments, governance committees. Formal work groups, not individuals, are usually delegated authority for planning programs; for requesting, reviewing, allocating and expending funds; and accounting for those expenditures. Many of the differences in values and objectives of individuals in organized settings are accommodated through the exercise of differential power by formal groups.

How do these formal groups acquire power? Thompson [12] suggests that power is held by those subunits that can cope with critical organizational contingencies such as the acquisition of resources. Perrow [6] and Hickson et al. [4] have conducted research that supports this view. Specifically, Hickson et al. have found confirmation of a research hypothesis that subunit power is a function of: (1) the ability of the subunit to assist the organization in coping with uncertainty by preventing the occurrence of certain events, forecasting them, or absorbing their effects; (2) the extent to which the activities of a particular subunit cannot be replaced or alternatives found; and (3) the extent to which the activities of the subunit are linked to other subunits and have immediate and pervasive implications for the organization's effectiveness. Since at least one crucial measure of effectiveness is the ability of an organization to acquire from and provide resources to its environment [15], Hickson contends that subunits that are central to and facilitate the process of resource acquisition and product disbursement may have more power than other units.

A recent study examined the bases of subunit power and the uses of that power in the resource allocation process of a university [7]. Results indicated that those academic departments that have greater power acquired a greater portion of the general fund discretionary resources of the university over a thirteen-year period (1958–1970). Data analysis revealed that the powerful departments had been more successful in receiving allocations even when the researchers introduced statistical controls for departmental size, national rank, and college affiliation.

Further, supporting the findings of Perrow and Hickson, the study found that the bases of power relate quite directly to the department's provision of resources to the university—in order of importance: outside grants and contracts, number of graduate students, national rank, and proportion of undergraduate students taught. While this particular set of resources and their order of importance is probably specific to a complex research university, it does confirm the authors' general hypothesis about the importance of resources in defining subunit power.

When is subunit power used for political purposes? Power is a resource; as such, it would seem reasonable that it would be used by a skillful political actor only to the extent and in the form that it is absolutely necessary. Confirming this hypothesis, Salancik and Pfeffer [9] found that the use of subunit power to acquire resources is more prominent when the resource is scarce and when it is critical to the functioning of the subunit. If effective, the use of power in such circumstances results in an expansion of available resources, which then becomes another source of power for future influence attempts.

While power can be acquired by managing relationships with the environment, political actors frequently use a variety of internal strategies to gain resources in a particular allocation period or to maintain power for use in future budget cycles. Some examples of ways in which persons or groups with discretionary power act to maintain their power in the budgetary process include:

—Becoming informed about the needs and priorities of all relevant persons and groups
—Controlling access to information about important elements of budgeting, such as past performance of subunits, budget guidelines, expectations of influential persons, and one's own priorities
—Structuring the activities, timetable, and responsibilities of other persons in the budget process
—Retaining authority for establishing planning assumptions and budget preparation guidelines
—Allocating funds only in minor accounts, such as supplies, rather than allocating to major accounts such as salaries
—Retaining large discretionary accounts or accounts such as travel and equipment so that "favors" may be given
—Retaining authority for budget control so that mid-year and end-of-year transfers among accounts may be made easily and obscurely.

Only when power cannot be maintained by acting alone will the individual/group holding discretionary power seek to build strength through coalitions. This behavior is in contrast to a common strategy adopted by persons or groups low in the organizational hierarchy; there, coalitions are formed frequently and early in any resource allocation activity.

There is some reason to suspect that in the resource allocation process, as in other areas of intergroup competition or conflict, subunits are more likely to form coalitions to oppose something than to constructively support or promote something. This opposition or "common enemy" approach rarely results in lasting reductions of tensions between units; if a set of common, positive superordinate goals could be found and coalitions built to support them in the resource allocation process, there is some evidence that negative stereotypes and hostilities would be reduced and this cooperative behavior would transfer to other institutional processes [10].

Several types of coalition-building in the resource allocation process are possible:

—An academic department supports an increased allocation to the library, because the director has agreed to purchase more books and journals in the disciplinary area of interest to the department

—Academic support units of several colleges join to oppose funding for diagnostic testing personnel in the Office of Student Services because they believe that function should be allocated to the colleges rather than residing in the central administration

—The dean of the college makes several part-time faculty fractions available to the English Department in exchange for their support of his or her faltering curriculum reform proposals

—The vice-president for academic affairs informally encourages the academic deans to lobby for precise projections of utility costs because he or she has so far been unable to secure them from the vice president for administration and finance.

Value of Political Behavior

It has been argued here that behaving politically may be said to be acting in one's own self-interest and requires power to attain that end. Further, power in organizations frequently resides in groups rather than individuals, and those formal groups that are powerful may derive it from their ability to manage the input and output of critical organizational resources. Finally, there is some evidence that, in universities, subunits that are powerful are also more successful in acquiring discretionary resources—a classic case of "the rich get richer."

But what is the value of political behavior? Is it, as some seem to suggest, always dysfunctional? Robbins contends that it may be functional or dysfunctional, depending on whether that behavior assists or deters the organization in attaining its goals (Fig. 1). If, in acting in one's own self-interest, an individual or group behaves in ways that are compatible with the best interests of the organization, such behavior is functional [8, p. 65].

Implicit in this model of political behavior are two principles: (1) it is desirable to achieve as much congruence as possible between individual/group and organizational objectives, and (2) the value of individual/group behavior is judged with reference to existing organizational objectives.

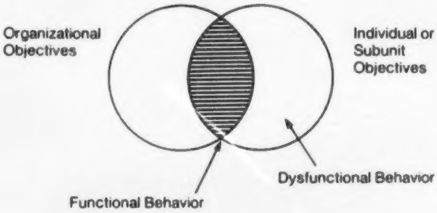

Fig. 1. Value of Political Behavior

There is considerable support in the organizational literature for the first of these principles, but the second seems too restrictive because it assumes the appropriateness of existing objectives and suggests that political behavior intended to change organizational objectives is dysfunctional.

Individual and Organizational Objectives

The disjunction of subunit and organizational objectives appears to many theorists to be due largely to ambiguity or lack of consensus about organizational goals. This is especially a problem in complex research universities, where there are many diverse and relatively autonomous subunits; it often seems that university objectives for a particular period, and even long-term goals, are dictated by the availability of certain types or amounts of funds to the subunits from external agencies, rather than being defined a priori through governance structures.

It also seems that persons in discretionary positions rarely find it in their own self-interest to reduce ambiguity about organizational goals, particularly when there may be some question about their personal agreement with the likely results of the governance process or when discussion about goals and policy may provide a forum for protracted and acrimonious disputes among subunits or between the subunit and its parent organization. Persons in senior administrative positions may do little to reduce the amount of dysfunctional political activity generated by goal ambiguity because their own power is not being threatened and/or they personally hold the discretionary power that is likely to be influential in managing the conflict. Even if an institution is able through governance structures to achieve consensus about goals and policies, decisions must still be made about how to organize and fund activities to achieve particular objectives in a given fiscal year. When resources are plentiful, administrators often are willing to fund programs even if they do not measurably contribute to the functioning of the organization. In part, this is a response to the difficulties inherent in achieving congruence among the multitude of subunit and organizational goals at a detailed, operating level. If an institution really is willing to ask rigorous, specific questions about the marginal costs and benefits of increasing or decreasing the funds available to various activities, it faces a plethora of highly charged political issues each fiscal year; this is true precisely because the institution has many, frequently conflicting objectives and much uncertainty about the best way to achieve them.

For example, should an institution respond to the inadequate academic preparation of the student clientele it was established to serve by spending more money to recruit better-prepared students, by providing centralized academic support services, by providing personal counseling, by increasing faculty time in advising, or by means of some other strategy. The debates that might occur in each resource allocation cycle about such operational questions are further complicated by the heterogeneity of attitudes and values among subunits, inaccurate perceptions of organizational or subunit goals, and resistance deriving from communication failures or lack of participation in making decisions about goals.

Even if the institution adopts a consciously experimental stance—admitting that there is ambiguity about the "best" package of objectives or strategies to meet them—and decides to fund pilot projects or to simultaneously fund alternative strategies, many new decision points are generated to plan and evaluate these experiments. The unwillingness or inability of most higher education administrators to conduct serious analyses of alternative objectives or strategies and to fund programs differentially based on their contribution to subunit and organizational objectives for the fiscal year is reflected in the continued prominence of traditional "line-item" or "object of expenditure" budgeting systems.

Line item systems allow administrators to continue to use, at least in the short run, their own discretionary power to allocate resources without resorting to complex and expensive cost/benefit analyses. Discretionary reviewers are able to: (1) closely survey easy-to-understand items in the budget while ignoring the more comprehensive and complex issues; (2) make experiential guesses on items while simultaneously letting experience with a program attest to its success or failure; (3) lower their expectations of program performance in an effort to avoid antagonizing groups; and (4) use the previous year's budgetary allotments as the primary foundation for considering the next fiscal year's increment or decrement [14, pp. 11-17]. Since participants tend to select only a few problems for careful analysis at any one time and to choose merely satisfactory rather than optimal strategies for allocating resources among subunits, there is considerable room for discretion to be exercised by persons or groups that have power.

Changing Organizational Objectives

For all of its utility in helping to describe and analyze higher education budgeting, the Robbins model of political behavior has a critical deficiency—the model is static. The value of the political behavior of an individual or group is judged with reference to existing organizational objectives and implies that behavior contrary to these objectives, even behavior explicitly designed to change the objectives, is dysfunctional.

Why is this a problem? A growing body of organizational literature suggests that organizations existing in changing environments must be capable of modifying their internal functioning and even their objectives in order to be effective over time. One would expect that political behavior that assists the organization in adapting its objectives, strategies, and operations to environmental change should be considered functional.

Let us look again specifically at higher education and its budgeting processes. The university is dependent upon the environment not only for its inputs, but also for acceptance of its outputs:

> the university uses resources to teach students, do research, and provide technical information to society. The survival of the university depends upon its ability to attract student tuitions and taxpayer dollars in sufficient amounts to pay the costs of resources. If the university's output is rejected by the larger environment so that students enroll elsewhere and taxpayers support other public endeavors, or if the university is guilty of expending too great an amount of resources in relation to its output, it will cease to exist. Like the business firm, the university must provide the right output at the right price if it is to survive. [3, p. 63]

Not only must the university be able to acquire inputs and find sources for its outputs, but it may be important that the internal processes used in resource acquisition and allocation reflect the nature of the environment. Salancik and Pfeffer found that it is important to know the extent to which subunit power "is based on dimensions that are important to groups or organizations outside of the organization as well, such as legislatures or alumni, or other organizations or groups in the organization-set" [9, p. 471]. If those resources that come to be defined as crucial inside the organization (and thus define internal power) are the same resources or contingencies that are most critical to the organization's ability to make transactions with the environment, they hypothesize that the organization will be more successful in dealing with its environment. And, conversely, it is likely that "organizations that are relatively more insulated, due to their source of funding or due to their monopoly position, are more likely to be social units in which subunit power is based on less important, or less externally based criteria." They conclude that "universities will fare relatively better at the hands of their state legislatures or alumni to the extent that the basis for subunit power within the organization more closely corresponds to the relative importance of the criteria as held by the external organizations" [9, p. 471].

The Salancik and Pfeffer research reinforces the notion that colleges and universities have significant relationships with their environments—especially in resource transactions. If their environments change, then the objectives of the university with respect to its outputs, inputs, and/or processes must also change. If we extend this line of reasoning to our model of political behavior, we would say that political behavior may be functional to the extent that an individual or group behaves in ways that are compatible, not with existing organizational objectives, but with *organizational effectiveness.*

From the society's point of view, "effectiveness is the extent to which organizations achieve their missions, goals, and objectives within the constraints of limited resources" [3, p. 60]. The ultimate survival of the organization depends on its ability: (1) to produce products or services required by its environment by acquiring the necessary resources and maintaining appropriate internal functioning, and (2) to adapt to the changing demands of its environment.

Based on recent research, it is possible to say with some confidence that organizational effectiveness is a multidimensional construct that includes several component concepts; the task of the administrator is to maintain the appropriate balance among these components. Five components of effectiveness are especially prominent in the research literature [3, 11]:

—Production—ability of the organization to produce the quantity and quality of output that the environment demands
—Efficiency—the ratio of outputs to inputs
—Satisfaction—need fulfillment of participants
—Adaptiveness—extent to which the organization can and does respond to internally and externally induced changes
—Development—extent to which the organization invests in its own capability to survive in the long run.

Political behavior that works against existing objectives but contributes to organizational effectiveness might include putting pressure on the organization to: (1) clearly define objectives with respect to a component of effectiveness that has been ignored, (2) achieve the proper relationships among the criteria in a given time period, or (3) respond to internal or external change by balancing the organization's performance with respect to these components over time. These political behaviors may occur as a part of formal organizational processes, such as planning, resource allocation, personnel actions, and program evaluation; but they may also happen in informal ways and at nonscheduled times. In either case, such behaviors should be considered functional.

The value of political behavior in a complex organization, therefore, should not be judged in terms of a simple congruence between self-interested action and existing organizational objectives. Rather, it is essential that functional political behavior facilitate the achievement of organizational effectiveness.

Revised Definition of Political Behavior

It has been argued here that existing definitions of political behavior would be more useful in explaining and predicting behavior in higher education budgeting if several revisions were made in the definitions:

- —The definition should be applicable to the behavior of formal and informal groups, as well as to the behavior of individuals
- —The intentions of the actor should be defined in terms of self interest, but with that broadly construed as meeting any unfulfilled need of the actor
- —The definition should allow distinctions among the intentions, actions, and effects of behavior
- —The definition should be dynamic, describing the value of political behavior in terms of contributions to organizational effectiveness.

A definition of "functional political behavior" that meets the conditions described above might read as follows: actions by individuals and/or groups in an organization that are intended to influence decision making in ways that fulfill some need of the actor, and, at the same time, have the effect of contributing to organizational effectiveness. The definition does not limit the bases of power that might be used by the political actor in the influence attempt, but does place some restrictions on intentions and effects of actions. Political behavior is any conscious attempt to fulfill one's own needs by influencing decisions; this behavior becomes functional for the organization when it has the effect, intended or not, of maintaining or increasing organizational effectiveness.

The revised definition is complex, and research based on it would encounter some familiar methodological problems: the difficulty of identifying and measuring the needs that motivate behavior, the changing composition of groups, the elusiveness of measures of change, and the multivariate nature of effectiveness. Nevertheless, the definition provides greater clarity about the key elements of political behavior and is more applicable to the internal functioning of complex organizations than its predecessors. It is, therefore, a promising tool for describing and analyzing behaviors that we often speak of pejoratively, but have also come to see as essential in the use of discretionary power in college and university budgeting processes.

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